



planning report no. 25

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Connecticut coastal area management program

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RECREATIONAL DEMAND, OPPORTUNITIES, AND LIMITATIONS
IN CONNECTICUT'S COASTAL AREA

Planning Report
25

Prepared for the
State of Connecticut
Department of Environmental Protection
Coastal Area Management Program
by
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March, 1978



P R E F A C E

This report was prepared by Margaret N. Schneider under the supervision and guidance of the staff of the Coastal Area Management Program. Ms. Schneider was an environmental intern with the CAM Program under the auspices of the Massachusetts Audubon Society's Environmental Intern Program. She is currently working toward a Master's Degree in Forestry Science from the Yale School of Forestry and Environmental Studies.

This report assesses recreational demand, opportunities and limitations in Connecticut's coastal area and recommends a planning process for the protection of and access to Connecticut's shorefront area. Views or opinions expressed herein are those of the author and do not necessarily reflect the policies, official or unofficial, of the Connecticut Coastal Area Management Program or Advisory Board.

This report was financed in part by a grant through the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration of the U.S. Department of Commerce under the Coastal Zone Management Act of 1972.

TABLE OF CONTENTS

	<u>Page</u>
PREFACE	i
LIST OF TABLES AND FIGURES	iv
INTRODUCTION	1
DEFINITION OF THE TERM BEACH	3
COASTAL RECREATION: A NATIONAL PERSPECTIVE	5
Insufficient Recreational Resources to meet Demand	7
Conflicts Between Recreational and Other Coastal Users	8
Capacity and Intensity Determinations	10
CONNECTICUT'S COASTAL RECREATIONAL RESOURCES	11
Physical Resources	11
Coastal Recreational Resources	16
Recreational Resource Deficits	22
Summary	24
AREAS OF POTENTIAL RECREATIONAL USE	27
Potential for Expansion of Existing Facilities	27
Areas Recommended for Study as Potential or Improved Access Sites	28
POTENTIAL METHODS FOR ENHANCING SHOREFRONT ACCESS	31
Acquisition	31
Land Use Regulations	32
Provision of Access by the Private Sector	33
Increase Access Through Affirmation of Existing Public Rights	33
Management Techniques	33

	<u>Page</u>
COMPLEMENTARY LEGISLATION AND FUNDING	35
EXISTING POLICY RECOMMENDATIONS	37
SCORP	37
Long Island Sound Regional Study	39
PLANNING FOR INCREASED SHOREFRONT ACCESS IN CONNECTICUT	43
Coastal Recreational Resources and Opportunities - Summary . . .	43
Proposed Shorefront Access Planning Process	43
APPENDICES	
Appendix A: National Outdoor Recreation Participation Rates	
Appendix B: Town Shoreline Descriptions	
Appendix C: Beach Associations	
Appendix D: Designated Public Recreational Beaches	
Appendix E: State Boat Launching Ramps; Marinas	
Appendix F: State Owned Recreation or Preserve Properties in Coastal Towns	
Appendix G: Islands	
Appendix H: Complementary Legislation and Funding	

T A B L E S A N D F I G U R E S

		<u>page</u>
TABLE 1	Compatibility Matrix	9
FIGURE 1	Materials of Connecticut Shore	12
TABLE 2	Distribution of Sandy Beach	13
TABLE 3	Ownership of Sandy Beaches	17
TABLE 4	Access to Designated Public Recreational Beaches	18
TABLE 5	Recreational Lands In The Coastal Area	21

INTRODUCTION

This report addresses subsection 305(b)(7) of the Coastal Zone Management Act of 1972 which requires that:

"The management program for each coastal state shall include...a definition of the term "beach" and a planning process for the protection of, and access to, public beaches and other public coastal areas of environmental, recreational, historical, esthetic, ecological, or cultural value."

This report proposes a coastal access planning process based on the evaluation of Connecticut's coastal resources and existing recreational facilities. Opportunities for increasing shorefront access in Connecticut are limited by two major factors: (1) The amount of physical resource suitable for recreational use is small. This is a result of the physical characteristics of the coastline, the existing land use development patterns and the degraded water quality in many areas of Long Island Sound. (2) There are limited funds available for recreational development. Given these limiting factors, a shorefront access planning process which is both an integral part of the Coastal Area Management Program and of the Statewide Comprehensive Outdoor Recreation Plan is recommended.

The single most important factor limiting increased shorefront access is the pattern of existing coastal development. Given the limited amount of undeveloped land in the coastal zone the competition between alternative coastal uses is great. While recreation is an important use of coastal land it is not the only potential use. As in any resource allocation process trade-offs have to be made. In order to determine the priority which recreation should assume in this resource allocation process detailed information on the demand for all types of coastal recreation and the capacity of other recreational opportunities to satisfy this demand must be determined. Access planning is therefore closely linked to statewide recreational planning. As both an integral part of the Coastal Area Management Program and the Statewide Comprehensive Outdoor Recreation Plan the proposed shorefront access planning process for Connecticut should continually evaluate coastal recreational needs and establish priorities among competing coastal land uses throughout the coastal area.

DEFINITION OF THE TERM "BEACH"

The distinction between two interchangeably used terms, beach and shore, is important to the clarity of this section. Webster defines the two terms as follows: 1/

Shore - land at or near the edge of a body of water.

Beach - a nearly level stretch of pebbles and sand beside a sea, lake, etc, often washed by high water.

From the legal perspective the shore is divided into four portions: 2/

1. Sea: that area seaward of the mean low tide.
2. Wet - sand area (foreshore or tidelands): "area between mean low tide and mean high tide lines which is covered by the daily flow of tides."
3. Dry - sand area: "area between mean high tide line and line of vegetation. An area which is inundated only by severe storms."
4. Upland: "area landward of the vegetation line."

The definitions of mean high tide, mean low tide, and vegetation lines are much disputed. Generally, the mean high water line is established through observation over a 19 year period.

Ownership of these four sections varies from state to state. In Connecticut the state owns land seaward of the mean high water mark. The "seaward" boundary of this ownership was established in the Submerged Lands Act of 1953 (43 U.S.C. §1301-1343). This act quit claimed lands under navigable waters to a distance of three miles or to approved state boundaries. Connecticut owns all lands from the mean high water mark seaward to the congressionally approved state boundaries with New York and Rhode Island.

Ownership of the wet-sand areas is of a special nature. This land is owned under the jus publicum or public trust doctrine. This land is held in trust by the state for its citizens. The interests of the public must be considered paramount in this area.

1/ Webster's New World Dictionary (New York: World Pub'l Co., 1962).

2/ David Owens and David Brower, Public Use of Coastal Beaches (Raleigh, N.C.: University of North Carolina Sea Grant College Program., 1976). p. 15.

* * *

For the purpose of planning under section 305(b)(7) of the Coastal Zone Management Act and all relevant sections the following definition, corresponding to recognized ownership patterns, shall apply:

Public Beach - the public beach is that portion of the state owned land seaward of the mean high line, which is between the mean high and mean low tide lines (wet-sand area). This area is held in public trust by the state for the citizens of Connecticut.

C O A S T A L R E C R E A T I O N : A N A T I O N A L P E R S P E C T I V E

Recreation is one of the most popular and fastest growing uses of the coastal zone. The Bureau of Outdoor Recreation estimated that in 1965 forty-four percent of all those who participated in outdoor recreational activities preferred water-based activities. It is expected that swimming will be the most preferred recreational activity by 1980. 3/ Nationwide the demand for coastal outdoor recreation activities is currently exceeding the effective supply, and the situation given projected increases in participation rates is only expected to worsen. 4/

There are no uniform "solutions" for the coastal access problem. Each states' coastline is unique and presents unique recreational opportunities and management problems. There are, however, several major "coastal recreation problems" which are common to all states. These are: 5/

1. Insufficient recreational resources to meet demand.
2. Insufficient public access to existing recreational resources.
3. Conflicts between recreational and other coastal uses.
4. Disagreement over the capacity of recreation areas and the intensity at which areas should be managed.

Before discussing the status of Connecticut's coastal recreation opportunities it is useful to discuss the basic components of these coastal recreation problems.

INSUFFICIENT RECREATIONAL RESOURCES TO MEET DEMAND

Two factors, the suitability and the availability of a resource, interact to determine the supply of recreational resources. The suitability of the physical resource varies with the recreational activity. For example

3/ U.S. Outdoor Recreation Review Commission, Prospective Demand For Outdoor Recreation (Washington, D.C.: Government Printing Office, 1962) p.36.

4/ Dennis Ducsik, "The Crisis in Shoreline Recreation" in Power, Pollution and Public Policy (Cambridge, MA: M.I.T. Press, 1970) p.93.

5/ Robert Ditton and Mark Stephens, Coastal Recreation: A Handbook For Planners and Managers For U.S. Department of Commerce, Office of Coastal Zone Management (Washington, D.C.: Government Printing Office, 1976) p.1-2.

steep rocky shores are generally unsuitable for swim beaches but may serve as boat access areas. Tidal wetlands, in their natural state, are unsuitable for either swimming or boating activities. Other environmental factors such as water quality also affect the suitability of a resource for recreation.

The availability of a resource for recreational use and/or development is largely determined by the existing land use patterns. Historically, this country's "vast" coastline served as a gateway for the nation. Early settlements grew up along the coast and developed into large centers for transportation and commerce. Existing land use patterns reflect these early development patterns. It is estimated that fifty-four percent of the nation's population is concentrated within a fifty mile strip of the coastline, an area which accounts for only eight percent of the country's land area. 6/ Coastal land use today is characterized, particularly in New England, by high levels of development and private ownership.

The demand for coastal recreation while very visible is difficult to quantify. Recreational demand exists as expressed demand and latent demand. Expressed demand is demand which is demonstrated; this demand is reflected in rates of participation. Latent demand is that demand which goes unexpressed. Latent demand may remain unexpressed as a result of many factors including the lack of money, time, facilities (supply) or overcrowding. The Long Island Sound Study has identified areas of high population density where incomes are low and access has been precluded by development and degrading water quality as areas of high latent demand. 7/

Latent demand is an important factor which must be accounted for in the recreational planning process. There is, however, no standard or uniform method for measuring this demand component.

Rates of participation are frequently used to estimate recreational demand. These figures may reflect activity demand but due to the latent demand component they are not totally synonymous with demand. Participation rates are "the result of the interaction between supply and demand factors and are a management of consequent consumption or quantities taken by recreationists, given these supplies and demands." 8/ Trends in participation

6/ Dennis Ducsik, Shoreline for the Public (Cambridge, MA: M.I.T. Press, 1974) p. 1

7/ Bureau of Outdoor Recreation, "Outdoor Recreation and Long Island Sound: Demand, Supply, Needs." Planning Aid Report No. 3 for New England River Basins Commission. (June 1973) p. 2

8/ Marion Clawson and Jack Knetsch, Economics of Outdoor Recreation (Balto, MD: The Johns Hopkins Press, 1966) p. 115.

rates may be used to project demand if one accounts for the supply considerations and shifts between latent and expressed demand. ^{9/} Projections for rates of participation in outdoor recreation have been made on a nationwide basis. Such trends, however, should not be arbitrarily applied to a specific section of a given state. ^{10/} In the absence of a user-study specific to a state's coastal area, demand estimates based on participation rates are inappropriate. While demand may not be precisely quantified, demand for coastal recreational opportunities is very visible.

INSUFFICIENT ACCESS TO EXISTING RECREATIONAL RESOURCES

Access to existing facilities is often restricted to certain user groups. In the northeast three major barriers restrict the general public access to recreational areas. Many recreational areas are privately owned. Private ownership of the upland and dry-sand areas of a shoreline effectively bar general public access to the public beach. Publicly owned shorefront (including the dry-sand and upland areas) for recreation is scarce in the U.S.. The following table prepared by the Outdoor Recreation Resources Review Commission (ORRRC) in 1962 demonstrates the extent of the problem.

Shoreline Location	Total Erodable Shoreline	Publicly Owned Shoreline	Public Recreation Use
Atlantic Ocean and Gulf of Mexico	27,680	6,260	2,130
Pacific Ocean	4,650	1,240	790
Great Lakes	3,680	650	370
Total	<u>36,010</u>	<u>8,150</u>	<u>3,290</u>

* Alaska and Hawaii excluded.

Source: U. S. Department of the Army, Corps of Engineers,
Report on the National Shoreline Study, Washington, D. C.
(1971), at 43-44

^{9/} Ibid, p.116.

^{10/} A summary of national rates of participation in water-based activities is provided in Appendix A. It should be noted that these figures reflect national trends and are based on findings of a 1962 ORRRC report and may not adequately reflect today's trends. Further the activities list does not encompass the full range of coastal activities. It also appears unlikely that trends for a particular geographic region of a given state can be "broken-out" from national trends and remain statistically valid.

On a national average less than two percent of the shoreline is publicly owned as recreation shoreland, this accounts for five and a half percent of the total recreational shoreline. 11/

Access to public recreation lands is not always open to the general public. Use restrictions, particularly residency requirements, are increasingly being imposed on municipally owned lands in an attempt to limit user numbers. Finally, our reliance on private cars as a means of transportation to and from access areas restricts both the user classes and the user numbers due to parking limitations.

CONFLICTS BETWEEN RECREATIONAL AND OTHER COASTAL USERS

Uses of the coastline include commercial, industrial, residential and recreational. Highly developed uses such as industry and commerce are often incompatible with recreation.

"The practical and aesthetic requirements of clear water, adequate land area, safety and pleasant surroundings, and necessary recreation developments can rarely be assured in conjunction with commerce, industry, housing and transportation." 12/

Patterns of coastal development have excluded much shorefront from alternative uses. In addition to these conflicts in use there exist conflicts between different recreational uses.

The unique character of the coastal zone and the ecosystems it supports makes it an area capable of offering many recreational experiences. Each recreational activity places a different "demand" on the recreational resource. The type of use an activity places on a resource and the amount of support facilities which the activity requires determines both the activity's impact on the environment and its compatibility with other recreational activities. Table 1 (page 9) presents a compatibility matrix for the major water dependent and water enhanced activities. In general, the more intense or more resource consumptive the recreational activity the less compatible it is with other activities. In addition to these use conflicts, the intensity of recreational activities and the development of support facilities poses many management problems.

11/ Dennis Ducsik, "The Crisis in Shoreline Recreation" op. cit., p. 99.

12/ The George Washington University, "Shoreline Recreation Resources of The U.S.," Study Report No. 4 to ORRRC (Washington, D.C.: Government Printing Office, 1962) p.7.

TABLE 1

COMPATIBILITY MATRIX

	Swimming	Boating	Fishing	Water-Skiing	Picnicking	Hiking, nature walks, walking for pleasure	Camping
SWIMMING		impacts water quality, noise wake, safety hazard. ----- Incompatibility in close areas	Separation should be maintained. ----- Compatible if zoned.	See boating ----- Incompatible	Compatible in multiple use facility	Compatible in multiple use, low development facility.	Compatible in multiple use facility.
Boating			shore and boat fishing may be incompatible due to noise and wake.	Dependent	No influence	Boating may detract from experience	May enhance overall experience
Fishing				Incompatible	Non-Influence	No influence	May enhance
Waterskiing					No In-fluence	See Boating	May enhance
Picnicking						May enhance	Dependent
Hiking etc.							Low density camping is compatible
Camping							

CAPACITY AND INTENSITY DETERMINATIONS

Recreational planners and managers must determine both the intensity of the recreational experience to be provided and the capacity of a given recreation area. The intensity of the recreational experience is determined largely by the support facilities provided. Generally the more support facilities provided, the more intense or consumptive the recreational activities are. Thus capacity and level of support facilities are often correlated. Capacity is defined in many ways. One may speak of "design" capacity or of "natural carrying" capacity. The first concept stresses man-spatial relations while the latter stresses the natural system's ability to withstand continued use without depleting or damaging the resource. Since the quality of a recreational experience is dependent both on the resource integrity and spacing, a definition of recreational capacity attempts to combine the design and carry capacity concepts. Recreational carrying capacity is defined as: 13/

"The predictable optimum amount of recreational activity that a recreation site can support or provide without permanent physical or biological deterioration of the site and/or appreciable impairment of the recreation experience."

The capacity of a resource is most frequently determined by dividing the resource (area) by a space standard (area/person). The determination by space standards should account for both the carrying capacity of the resource and the effects which people - spacing has on the user's satisfaction with the recreational experience (spatial or design capacity).

The use of space standards poses several problems. There is no one space standard that can be applied to a given activity. The number of standards which may be used is as varied as the number of "recreational experiences" a resource can offer. The "recreational experience", and "user satisfaction" derived from that experience is a very personal matter and involves components which are independent of the resource. In theory the use of space standards to determine capacity is effective. However, the magnitude of demand being placed on existing recreational resources has resulted in the misuse of these space standards. Many states have begun to "manipulate" resource capacity definitions and suggested space standards in an effort to justify expansion of support facilities without new acquisitions of land. The effect of such approaches will be gradual redefinition of a "beach experience" and a realignment of user expectations. Unfortunately, while more people will be accommodated and have a "satisfying" experience, the capacity of the resource to withstand intensive use will be largely ignored. In the long run this may cause many new problems for recreational planners and managers.

13/ Ditton, op. cit., p. 1-1.

CONNECTICUT'S COASTAL RECREATIONAL RESOURCES

PHYSICAL RESOURCES

Beaches

Sandy beaches provide the most demanded coastal recreational opportunities in Connecticut. This physical resource is, however, neither abundant nor evenly distributed. The occurrence and distribution of shoreline features are a result of a number of physical and geologic processes. Predominant in determining coastal configuration is the nature of the underlying bedrock, the effects of glaciation and the subsequent rise of sea level.^{14/} These basic concepts as well as the process of sediment erosion, deposition and transport which are responsible for the dynamic nature of the shoreline are described in Long Island Sound: An Atlas of Natural Resources. ^{15/}

What is fundamental to this discussion of "beach" access is the pattern of resource distribution which have resulted from these geologic and physical processes. As previously mentioned, sandy beaches, the access to which is the most desired of the coastal resources, are not abundant in Connecticut. To properly assess Connecticut's coastal access situation existing access must be evaluated with respect to both the occurrence and distribution of coastal resources. Connecticut's coastal frontage ^{16/} amounts to 458 miles. Of this frontage 84.5 miles or 18% is sandy beach. This beach varies greatly in length, width and sand quality. Analysis of CAM coastal resource maps reveals that as much as one third of the state's beaches are less than 1500 feet in length. Because of their small size such beaches afford only limited public recreational opportunities.

Bloom (1967) has described in detail the distribution of coastal resources including beaches, rocky headlands and tidal wetlands. ^{17/} Bloom's description of coastal geomorphology is based on the division of the shoreline into seven segments based on the nature and distribution of sediments and bedrock. A brief review of this information provided by Bloom is extremely helpful in the assessment of existing and potential coastal access opportunities, particularly recreational beach access. The seven coastal segments depicted in Figure 1 (page 12) are described briefly below. Table 2 (page 13) indicates the occurrence of sandy beach in each of these segments. Additional information and map references for each of the coastal towns is provided in Appendix B.

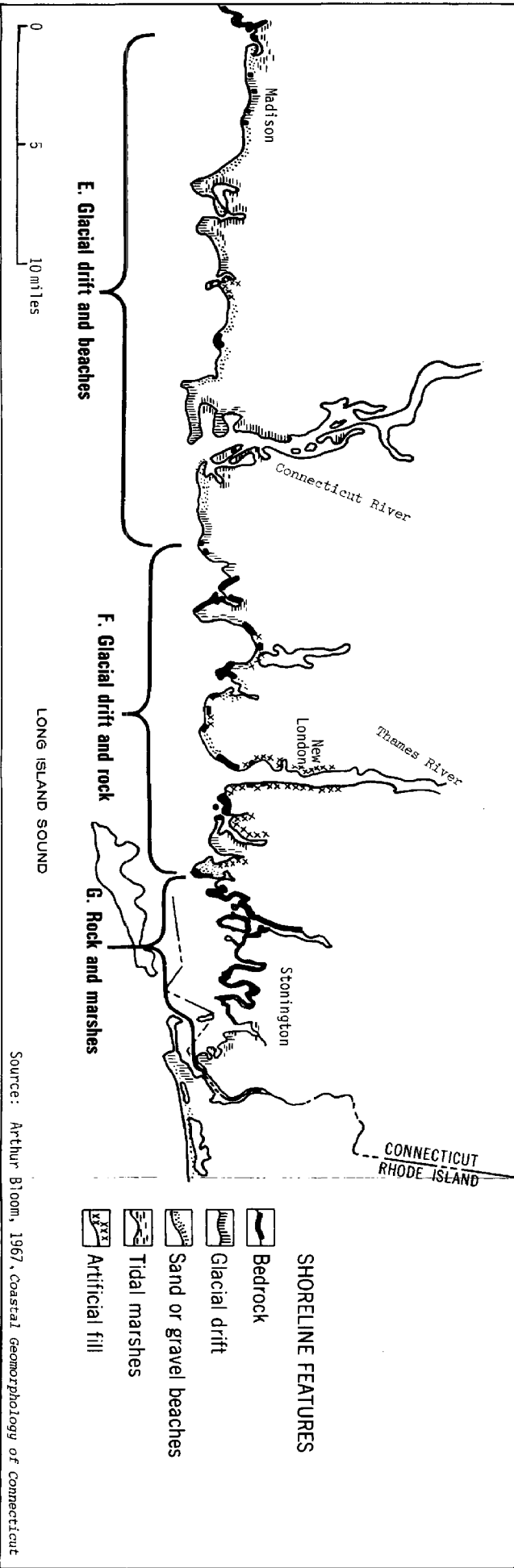
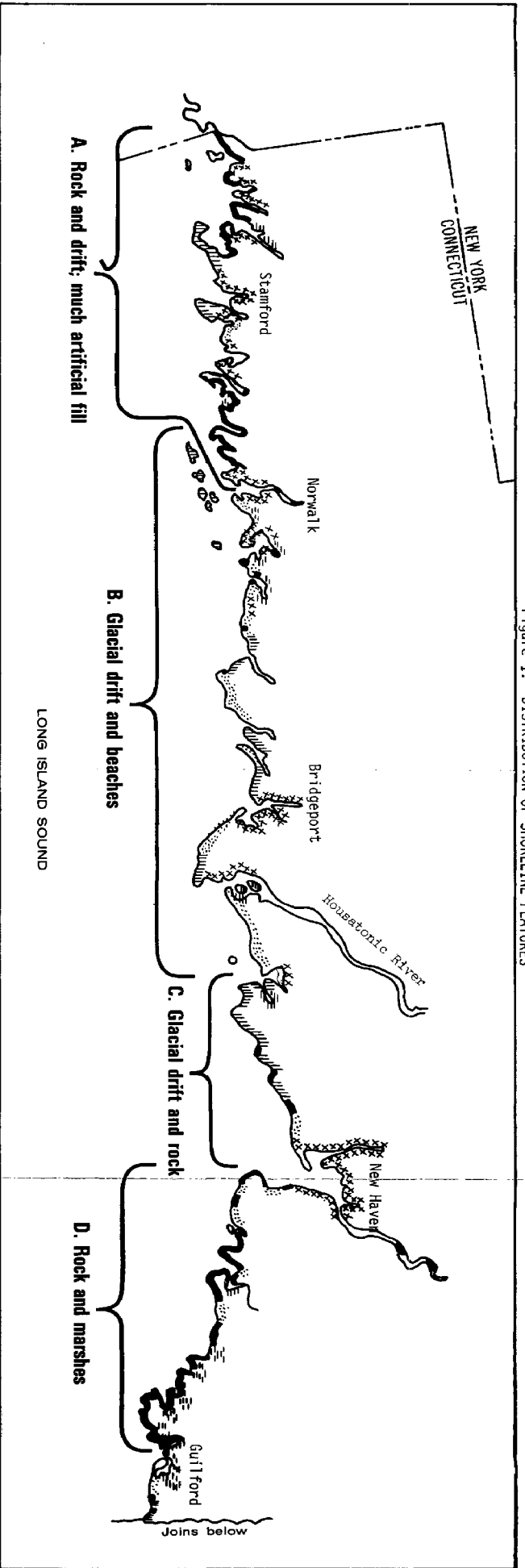
^{14/} Arthur Gains, "Connecticut Shoreline Survey: New Haven to Watch Hill" (Dept. of Army, New England Division, Corps of Engineers, 1973) p.1.

^{15/} See Chapter 3: Shoreline Features and Processes in Long Island Sound: An Atlas of Natural Resources, Connecticut Department of Environmental Protection, Coastal Area Management Program, November 1977.

^{16/} Coastal frontage includes Long Island Sound frontage and riverine frontage in the 36 coastal towns. (See Appendix B for detailed descriptions). Off-shore islands which are not included in this figure provide an additional 90 miles of coastline.

^{17/} Arthur Bloom, Coastal Geomorphology of Connecticut. (Final Report, Geography Branch, Office of Naval Research, June 15, 1967).

Figure 1. DISTRIBUTION OF SHORELINE FEATURES



Source: Arthur Bloom, 1967, *Coastal Geomorphology of Connecticut*

TABLE 2

DISTRIBUTION OF SANDY BEACH

SEGMENT	TOWN	COASTAL FRONTAGE (miles)	SANDY BEACH (miles)	SANDY BEACH % frontage
A	Greenwich	27.2	1.7	6.2
	Stamford	15.0	3.4	23.3
	Darien	16.5	.3	1.8
	Norwalk	17.0	.6	3.5
B	Westport	18.9	5.9	31.2
	Fairfield	10.4	3.2	30.8
	Bridgeport	18.0	2.5	13.9
	Stratford	13.2	4.9	37.1
C	Milford	19.3	8.7	45.1
	West Haven	7.9	4.4	55.7
	New Haven	18.0	1.3	7.2
D	East Haven	3.4	2.3	67.6
	Branford	18.6	3.4	18.3
	Guilford	14.8	1.4	9.4
E	Madison	8.5	6.1	71.8
	Clinton	8.7	4.0	45.9
	Westbrook	7.4	3.9	52.7
	Old Saybrook	18.6	4.9	26.3
F	Old Lyme	17.1	4.3	25.1
	East Lyme	19.9	6.3	31.7
	Waterford	22.4	4.0	17.8
	New London	9.1	2.1	23.1
G	Groton	26.9	3.8	14.1
	Stonington	37.9	1.0	2.6

- A. Byram Point to Norwalk Harbor (Greenwich, Stamford, Darien, Norwalk to harbor)

This segment is characterized by extensive bedrock exposures and small pocket beaches. Filling and bulkheading has occurred extensively in this area.

- B. Norwalk Harbor to Milford Harbor (Norwalk, Norwalk Islands, Westport, Fairfield, Bridgeport, Stratford, Milford to harbor)

This segment is one of the two segments of glacial drift and beaches. The area has many long barrier beaches notably are those forming Sherwood Island, Fairfield Beach, Long Beach, and Myrtle - Silver Beach. In addition the Norwalk Islands, thought to be part of an end moraine, provide additional shoreline with recreational potential.

- C. Milford Harbor to New Haven Harbor (Milford, West Haven and New Haven)

Man's influence on this "urban segment" has been high. While few small pocket beaches would be expected to occur naturally between rocky headlands much filling, artificial beach nourishment and bulkheading has increased the occurrence of "sand deposits" particularly in West Haven. Man's impact is also reflected in the water quality of this segment which has greatly reduced the attractiveness of these coastal towns.

- D. Lighthouse Point to Guilford Point (East Haven, Branford, western Guilford)

This segment is dominated by exposed bedrock, rocky headlands and tidal marshes. Drift is very thin in this area and only a few small beaches are found. Many small bedrock islands characterize this segment. Among these are the Thimble Islands in Branford.

- E. Guilford Point to Hatchett Point (Guilford, Madison, Clinton, Westbrook, Old Saybrook, Old Lyme)

The East River in Guilford forms a distinct boundary between the rocky coastal segment to the west and the eastern segment characterized by sandy beaches and glacial drift. This segment is largely continuous but often narrow barrier beaches. Much filling of the marshes naturally backing these beaches has occurred often. Such filling has occurred to provide access to these beaches (an example of this practice is Hammonasset State Beach where much of the support facilities were built on filled wetlands).

F. Hatchett Point to Groton Long Point (East Lyme, Waterford, New London, Groton)

This segment is one of glacial drift and rock. Relatively long barrier beaches occur between headlands and are backed in most cases by tidal marshes.

G. Groton Long Point to Pawcatuck Point (Eastern Groton and Stonington)

This final coastal segment is characterized by a series of irregular headlands separated by open coves. Essentially no sandy beaches are found in this segment.

The coastal descriptions provided by Bloom are based on "naturally delineated" segments. Often towns fall within two segments. Bloom also does not note the full extent of man's alterations to the coast. Such considerations are of importance in determining areas with recreational potential. The occurrence of seawalls, bulkheads, groins, and artificial beach nourishment reflect the physical processes which influence the occurrence of sand along the coast. Such features provide a good indication of the amount of maintenance which may be required in any area if large recreational facilities are planned. In addition, man's influences are reflected in water quality.

Long Island Sound Waters

According to water quality standards prescribed by the Connecticut Department of Environmental Protection for marine and coastal waters both SA and SB quality water is suitable for swimming. SC water is unsuitable for recreational swimming but is considered suitable for recreational boating. SC waters are closed to shellfishing and may be unsuitable for the fishing of indigenous finfish species. All Long Island Sound waters outside the shellfish closure lines are classified as SA waters. With the exception of the major harbors Long Island Sound coastal waters are classified as either SA or SB. The areas that are unsuitable for swimming due to poor water quality include:

Stamford Harbor, Norwalk Harbor, Ash Creek, Black Rock Harbor, Bridgeport Harbor, Housatonic River, Quinnipiac River, Mill River, New Haven Harbor, Connecticut River (portions only), Thames River, and Pawcatuck River.

The official water quality classifications do not adequately describe water quality in many coastal areas. The less than pristine quality of much of the Sound's water tends to detract from all coastal recreational experiences. Particular attention must be given to improvement of water quality in all coastal areas if enhancement of existing recreational opportunities and the provision of new opportunities are to be made.

COASTAL RECREATIONAL RESOURCES

Due to the limited availability of data on all recreational activities in the coastal zone, emphasis in this discussion has been placed the on swimming and boating. While these activities account for much of recreational activity on the coast other forms of coastal recreation such as sport fishing, hunting, wildlife observation and appreciation of views and scenic vistas are also important and additional opportunities for these activities are provided by Connecticut's coast.

Connecticut has 84.5 miles of Sandy beach which accounts for only 18% of the state's total coastal frontage. Approximately 36% (30.5 miles) of sandy beach is publicly owned by the State or municipalities. The remaining 64% (54 miles) of beach is privately held by individuals, beach associations, and other private organizations (Table 3, page 17).

Private individuals hold approximately 34% of the state's sandy beaches while private conservation organizations such as the Nature Conservancy own less than 2% of these beaches. Beach associations, a listing of which is included in Appendix C, own 28% of the state's sandy beaches. These association beaches provide recreational opportunities for many local residents.^{18/} While these beaches have restricted access they are generally heavily used. This appears particularly true of small association beaches found in high density residential areas.

Public ownership of sandy beaches by municipal governments accounts for 23.5 miles or 28% of the total beach area. The state owns 7 miles or 8% of Connecticut's beach resource. Swimming and related recreational activities is the major use of these public beach areas. Appendix D provides a listing and description of designated public recreational beaches. Over 77% of the publicly owned beach is currently used for swimming. The remaining 23% is composed of state and municipal conservation areas and undeveloped or undesignated state and municipal beaches.

Approximately three-quarters of the designated public recreational beaches are generally accessible to the public. Use restrictions, generally municipally imposed residency requirements, prevent access to the remaining one-quarter of the designated recreational beaches. Table 4 (page 18) provides a breakdown of public beach frontage by use restriction.

^{18/} See Planning Report No. 8, "Coastal Districts and Associations," for a discussion of Connecticut's beach associations.

TABLE 3
OWNERSHIP OF SANDY BEACHES

<u>Private</u>	<u>Mileage</u>
Individuals	28.0
Associations	24.0
Conservation Groups	1.3
Commercial	.7
	<hr/>
Total	54.0
 <u>Public</u>	
State	7.0
Municipal	23.5
	<hr/>
Total	30.5

TABLE 4
ACCESS TO DESIGNATED PUBLIC RECREATIONAL BEACHES*

<u>Restriction</u>	<u>Mileage</u>
General Access	
Public facility charging parking fee	10.2
Public facility charging entrance fee or requiring pass	1.1
Town facility requiring parking sticker available to residents and non-residents	5.6
Commercial: fee charged	.1
Limited parking only restriction	.8
	<hr/>
General Access Total (% of designated re- creational beach)	17.8 miles (75%)
Restricted Access	
Town facility: residents only by pass	3.1
Town facility: residents only by parking sticker	2.5
Other: not generally accessible	.2
	<hr/>
Restricted Access Total (% of designated re- creational beach)	5.8 miles (25%)

*Table includes only frontage figures for designated public facilities as listed in Appendix.

restrictions for each of the public beach facilities is presented in Appendix D.

The state currently operates three recreational beach areas totaling 4.5 miles of beach. These facilities, Sherwood Island, Hammonasset and Rocky Neck, offer comparable recreational experiences: highly developed and user-oriented. Capacity at these state facilities is determined by the availability of parking (this is the case at many municipal facilities also). It is unclear whether the provision of parking and the resource (sand beach) capacity bears any true correlation. The State Department of Environmental Protection currently uses space standards of five persons per car and 75 square feet per user to relate parking and "beach capacity".

The Statewide Comprehensive Outdoor Recreation Plan, (SCORP, 1974) estimated the capacity of existing public saltwater swim beaches. These estimates are based on parking availability. While the number of facilities listed by SCORP is less than the number in RPA inventories, the estimated capacity provides a good "ballpark" figure for total capacity.

	<u>#Facilities</u>	<u>Estimated Capacity</u>
State	3	60,500
Local (Unrestricted)	30	96,350
Local (Residents Only)	27	<u>30,350</u>
TOTAL		187,200

Source: SCORP p. 189.

Resource capacity estimates which require that the area of the resource be known are not available for private areas. The nature of private ownership of shorefront properties in Connecticut makes accurate area data difficult to secure. Use figures for these beaches are even less accessible.

*Wrong assumption
for capacity. -*

Recreational Boating

While the boating activity occurs on the water, boating requires special types of shore based support facilities such as boat launching ramps and marinas. The majority of boating support facilities are provided by the commercial sector. These facilities are generally accessible to the public within the economic constraints of the user.

A 1976 survey of marinas in Connecticut conducted by Department of Commerce for the Coastal Area Management Program identified 164 commercial marinas, 8 public marinas and 63 private yacht clubs. In addition there are 13 state boating launching ramps providing access to the Sound, and 10 ramps providing access to the Connecticut River. A listing of the marinas, clubs and boat launching facilities is provided in Appendix E.

The 164 commercial and 8 public marinas provide 16,485 slips and 3,108 mooring spaces. The number of spaces which the 63 private clubs provide is not known exactly. Based on earlier data, it can be estimated that these clubs provide in excess of 5,000 spaces.^{19/} The number of opportunities which state boat launching ramps provide is not known, nor are reliable turnover rates for the use of these facilities available.

Other Areas Providing Recreational Opportunities In The Coastal Zone

A variety of public, private and quasi-public lands offer recreational opportunities within the coastal zone. Within one mile of the shore there are over 8,400 acres of recreational land, exclusive of the swim and boating facilities already mentioned. Table 5 (page 21) shows the distribution of these lands by region and ownership type. While much of this acreage is in playfields and small municipal parks there are many state owned recreation and preserve areas which provide either Long Island Sound frontage or visual access to the Sound. Many of these areas may act as "substitutes" for the traditional swim-beach access area. Most of the state-owned facilities listed in Appendix F are managed for passive recreation only. Capacity and use figures for these other recreational areas is not available.

2. Islands represent one of Connecticut's greatest unused coastal resources. The Connecticut coast is dotted with some 143 nearshore islands. Most of these islands have remained undeveloped largely as the result of the access difficulties. Islands constitute approximately 90 miles of undeveloped coastline. Many of these islands support populations of flora and fauna which have all but disappeared from the mainland. These nearshore islands offer Connecticut a unique opportunity of both recreation and preservation. A complete listing of Connecticut's islands appears in Appendix G.

^{19/} These estimates were made based on data provided in SCORP (1974) p. 205.

TABLE 5

RECREATION LANDS IN THE COASTAL AREA IN ACRES
(Non Swim Beach and Non Boating)

Ownership		Total	SWRPA	GBRPA	SCCRPA	CRERPA	SCRPA
Private: Restricted Access	Zone 1	946.9	256.2	124.6	333.9	232.2	----
	Zone 2	693.2	214.4	183.7	157.5	137.6	----
Private: General Access	Zone 1	156.4	60.0	12.0	60	24.4	----
	Zone 2	289.9	188.5	30.1	25	23.3	23
Public: Restricted Access	Zone 1	1386.4	118.6	304.3	700	70.7	192.8
	Zone 2	940.7	35.1	106.9	438	78.0	282.7
Public: General Access	Zone 1	1817.6	304.6	153.5	829.3	8.8	521.4
	Zone 2	2259.5	614.6	274.6	300	5.7	1064.6
TOTALS		8490.6	1792.0	1189.7	2843.7	580.7	2084.5

Zone 1: Mean high tide line landward 1000'.

Zone 2: 1000' landward to distance 1 mile.

Source: 1976 - CAM/RPA Contract Reports

RECREATIONAL RESOURCE DEFICITS

On any hot summer weekend in Connecticut the imbalance between the supply of recreational swimming and boating opportunities along the coast is obvious. SCORP in 1974 determined the need for additional swimming and boating facilities in the state. This determination of opportunity needs was based on a combination of methodologies which are described in the appendices of SCORP.

Using state population figures and the frequency of turnaways from state beaches it was estimated that a deficit of 10,000 "opportunities" for saltwater swimming existed in 1970. Accounting only for natural increases in the state population SCORP estimates that a minimum of 5,000 additional units per year will be necessary for the next 20 years. This estimate does not account for the existing deficiencies in swim opportunities nor for predicted increases in the rates of participation. SCORP recommends that this absolute minimum increase in opportunities be provided by both state and local governments.^{20/}

Applying space standards recognized by DEP, the addition of 5,000 units would require the provision of an additional 1,000 parking spaces per year as well as 375,000 square feet of "unoccupied" beach area. The expansion of existing state-owned recreational beaches is proposed in the report of "The Governor's Task Force on State Beaches and Shoreline Parks" (1975) as a means of providing additional units. The term "expansion", as used in this report, generally does not involve an increase in state owned shorefront acreage. The capacity at these facilities would be increased by the provision of additional support facilities including parking lots, bathhouses, and improved access roads. In one instance, widening the dry sand beach by artificial nourishment is proposed. (see later discussion).

The relationship between parking availability (currently the major determinant of capacity) and beach capacity is not fully understood. It was the conclusion of both SCORP and the Long Island Sound Study that both the state and municipal beaches are used to capacity on peak use days. Crowding of the physical beach resource is apparent on such days.^{21/} Continued increases in the numbers of user units provided (through additional parking, for example) will have to be accompanied by a realignment in user expectations for a quality recreational experience unless additional acreage is acquired. Ultimately crowding of the physical resource may well result in a gradual degradation of the resource. This in turn may pose serious management problems over the long run.

SCORP calls for an increase in user units each year for 20 years. Long term management considerations, therefore, become increasingly important. Given current levels of use, an additional 5,000 units per year for 20 years cannot be accommodated at the existing facilities even if "expansion" occurs.

^{20/} Department of Environmental Protection State of Connecticut, Comprehensive Outdoor Recreation Plan (1974) p. 196.

^{21/} Capacity at existing state recreational beaches is exceeded (making turnaway necessary) approximately five times per seasons.

The acquisition and/or development of new recreational swim beaches will have to occur if this goal is to be met. The scarcity of suitable resources for such new development makes both the resource allocation process and the improvement and maintenance of environmental quality, notably water quality, critical issues. Whether or not the SCORP recommendations can and should be met will depend both on the priority which recreation is given as a coastal land use and the long term impact of water quality regulations.

While the capacity of the Sound to accommodate boating may be limitless, the near shore and support facilities are not. There were approximately 74,000 power boats registered in Connecticut in 1974 and it has been estimated that this number will exceed 90,000 by 1978. In addition to power boats, sailboats account for much of the boating use of the Sound. Boats which are not powered need not be registered making the numbers of such crafts difficult to determine; current estimates place the number of sailboats in Connecticut at 30,000. The demand for recreational boating support facilities, based on boat registrations alone, currently exceeds the supply of these facilities.^{22/}

Due to the problems associated with power boating, notably the safety factor and the potential for degradation of water quality, it is unlikely that new, large scale boating facilities will be provided by the public sector. Instead emphasis should be placed on increasing the number of state boat launching sites.

^{22/} Connecticut SCORP, op. cit. p. 211.

SUMMARY

Availability of Recreational Resources to Meet Demand

The demand for saltwater swimming and boating activities currently exceeds the available supply. Based on SCORP estimates there exists a deficit of over 20,000 saltwater swim units to date. The deficits in supply and demand for other coastal recreational activities is not known.

While the Connecticut coastal recreational potential is limited by the physical resource characteristics (i.e., limited sandy beach acreage along the Connecticut shore the current levels of coastal development, and degraded water quality) there still exist many areas which may be suitable for recreational use if properly developed and managed. Areas which offer high recreational potentials will be discussed in the next chapter.

Access to Existing Recreational Areas

A large percentage (75%) of the designated public recreational beach in Connecticut is accessible to the public (see Table 4). It is unlikely that the removal of municipally imposed residency requirements in areas of restricted access will provide many new use opportunities since municipal facilities are generally used to capacity. The removal of these use restrictions might, however, offer recreational opportunities to different user groups. Overall, however, because of the percentage of beach in private ownership, a total of 29% of the sandy beach in Connecticut is accessible to the general public.

The provision of alternative forms of transportation and/or off-site parking could provide for increased user numbers at existing facilities. In the long term, however, demand for coastal outdoor recreation can not be met without the development and/or acquisition of new facilities.

The number of additional units which would be provided by the public acquisition of privately held beaches (including upland and dry sand areas) is not known. The indication from admittedly incomplete data is that many of these private beaches are currently heavily used and may not individually provide many additional user opportunities. Many of these "beaches" are quite small (1/3 of the sandy beaches are less than 1500 feet in length) and are non-contiguous; hence they would be both costly to acquire and manage.

The above considerations should, therefore, be carefully weighed so that facilities developed will provide a wide range of opportunities and the environmental integrity of the area will be maintained. An overall plan for recreation must consider the long term attractiveness and managability of an area as well as the immediate number of user units which can be provided.

General public access to the existing public beach may be enhanced through a variety of techniques other than direct state acquisition of the dry sand and upland areas. Some of these techniques are described in chapter V. Careful study of these techniques is necessary before they are applied in Connecticut, but the gradual use of one or more of these techniques may enhance public access to the public beach over the long term.

Conflicts Between Recreational and Other Coastal Users

Coastal development in Connecticut is high. The impact of this development is particularly profound in the coastal urban areas where degradation of water quality has all but precluded recreational use in the surrounding areas. As water quality in these urban areas improve more opportunities for recreation should exist. Notably in New Haven areas of existing recreational beach have been closed to swimming due to pollution. In addition many areas of the coast have residential developments which are in flood prone areas and/or are substandard, the reuse or development of these areas could provide increased public access.

Capacity And Intensity Of Use

The determination of recreational resource capacity and the intensity at which the area is and should be managed is often given low priority due to the magnitude of the demand for recreation. SCORP outlines five considerations which should be weighed in the determination of recreational facilities need.^{23/}

1. Diversity - A wide range of recreational activities should be planned for.
2. Quality - Sites should be design to maximize the enjoyment of the recreational experience but should not degrade the environment excessively.
3. Proximity - When possible opportunities should be close to the potential users.
4. Capacity - The definition of recreational resource capacity should be considered.
5. Demand - Demand for recreational activities should be met in a manner which integrates the above considerations.

Given the projected rates of participation in outdoor recreation, it is unlikely given the physical resource limitations and land use development patterns that Connecticut will be able to meet the demand in the long run.

^{23/} Connecticut SCORP, op. cit. Appendix XIV.

AREAS OF POTENTIAL RECREATIONAL USE

As discussed in the preceding chapter, the demand for saltwater swimming exceeds the available supply. An inventory of the physical coastal resources undertaken by the Coastal Area Management Program has demonstrated that the potential for improvement of recreational swimming opportunities in Connecticut is limited greatly by both the availability of the physical resource and by the water quality in Long Island Sound. Improvement of access to beach areas may occur in two major ways: (1) the improvement of access to existing designated recreational beaches, particularly state owned beaches and (2) the development of new or the reutilization of former or underutilized beach areas.

POTENTIAL FOR EXPANSION OF EXISTING FACILITIES

Both SCORP and the Governor's Task Force on State Beaches and Shoreline Parks discuss the potential for expansion of the existing state owned swim beaches: Rocky Neck, Hammonasset, Sherwood Island and Silver Sands. As discussed previously, this expansion does not involve the addition of new shorefront land. Expansion proposals include the provision of additional parking at Sherwood Island and Rocky Neck, and improvements in the access route to Hammonasset. An environmental impact statement for the expansion of Rocky Neck State Park, including beach widening by artificial nourishment, is currently being reviewed.

Silver Sands State Park poses distinct management problems. Silver Sands is currently undeveloped due to on-site pollution and problems of contested ownership on parcels of land within the park boundary. The improvement of water quality by the removal of the pollution source as well as the renovation of the deteriorated beach front, and the building of other support facilities are needed before the site will be suitable for recreational use. Although these improvements are both costly and time consuming Silver Sands appears to offer the greatest potential for enhancing public shorefront access. Silver Sand's potential as a recreational area results both from its size and location. Silver Sands is currently 293 acres with 3100 feet of Sound frontage. The proposed aquisition of Charles Island (23 acres) increases the park's size and frontage. Silver Sands, in the Town of Milford is ideally located midway between two existing State beaches and in close proximity to the urban center of New Haven.

Determinations of both the environmental suitability of the proposed expansions of the existing recreational beaches and the benefits derived from proposed expansions and the development of Silver Sands need to be made before the limited available recreational funds are allocated. It would appear that the preliminary steps necessary for the development of Silver Sands are of high priority and will offer the greatest long term benefits.

AREAS RECOMMENDED FOR STUDY AS POTENTIAL OR IMPROVED ACCESS SITES

In addition to the expansion of existing state owned facilities, several coastal areas have been identified as having high recreational potential. These areas are discussed below.

The Norwalk Island Group, Norwalk

Connecticut's coastal islands offer perhaps the greatest potential for enhanced preservation and recreation. Of Connecticut's over 140 offshore islands the Norwalk Island group are among the largest. Many of the islands in this group have good quality sandy beaches. A 1970 report prepared by the City Planning Commission of Norwalk found that Chimmons, Ram (Shea)/Little Ram, Sheffield, The Plains, and Long Beach Islands be considered for increased public access for recreational and/or conservation purposes. Of these islands, two, Sheffield and Chimmons, have been recommended for inclusion in the Long Island Sound Heritage Plan. It is recommended that further study be given to the potential of these islands for enhancing coastal access.

Pleasure Beach, Long Beach/Great Meadow Complex, Bridgeport-Stratford

Pleasure Beach in Bridgeport and Long Beach in Stratford which form over two miles of continuous sandy beach offer great recreational potential which is not being fully realized due to the poor water quality in the area. Upgrading of water quality and subsequent improvement of facilities at both these beaches would provide much needed access in this urban area.

In addition to poor water quality, the proposed development of Great Meadow, the tidal wetland backing this barrier beach, threatens to further detract from the recreational potential of this resource.

A decision concerning this proposed development is pending and the outcome of this case will largely determine the suitability of the beach resource for enhanced recreational access in the future.

Seaside Regional Center and Harkness Memorial Park, Waterford

Both Seaside Regional Center and Harkness Memorial Park are state owned facilities with Long Island Sound frontage. Neither of these facilities provide general access for water-based recreation.

Seaside Regional Center is a 38 acre residential care facility with 1,300 feet of beach. The nature of this facility raises many questions concerning its suitability for multi-purpose use. The feasibility of increased recreational use of this existing state shorefront property should be investigated.

Harkness Memorial State Park is a 192 acre park with approximately 200 feet of beach frontage. It currently does not support any water-based recreation in accordance with the wishes of the property donor. A large stretch of privately owned undeveloped beach frontage approximately 2500 feet in length connects Harkness and Seaside beaches. In keeping with the desires of the Harkness family that the donated park beach not be used for recreational purposes, the feasibility of increasing public swim beach opportunities through additional use of the Seaside beach and acquisition and use of the privately owned connecting beach should be thoroughly explored.

POTENTIAL METHODS FOR ENHANCING SHOREFRONT ACCESS

The public beach (beach area below mean high water) is accessible on the landward side through adjacent upland and dry sand areas. Ownership and land use patterns in these upland and dry sand areas, therefore, effectively determines and frequently bars public access to the public beach. Many methods for securing access ways to the public beach have been suggested. Several of these methods are briefly described below. Further study needs to be given to each of these methods to determine its potential for enhancing public shorefront access in Connecticut.

ACQUISITION

Purchase of Fee Simple Rights

Negotiated purchase of land is the most direct and currently the most frequently used means of securing access. While direct purchase of land is the preferred method because it places the land fully under public control, it is both costly and results in the removal of the land from the local tax rolls. While federal funds are available for recreational land acquisition, such funds are distributed on a cost-sharing basis with the state. State matching funds, particularly for recreation, are scarce in times of tight budgets. ^{24/}

Easements (purchase of less than fee simple rights)

"An easement is an interest in land granting specific uses or restricting the manner in which it may be developed." ^{25/} Easements may be affirmative; enumerating the uses of property which are permissible, or negative; enumerating the uses of property which are prohibited. Easements are generally less costly than direct purchase since the private owner retains title. The land remains on the tax rolls, generally at reduced rates. The use of easements and corollary methods such as transfer of development rights and conservation restrictions offer advantages for both public and private interests and could be used quite effectively to enhance access.

^{24/} Note: If shorefront access is to be improved for the general non-resident public, property acquisition must also be accompanied by the provision of essential support facilities such as parking and sanitary facilities. The physical limitations of small, properties and the high cost of providing maintenance personnel and equipment generally make it unfeasible for the state to acquire and manage small, isolated recreational properties.

^{25/} Ibid, p. 5-2.

Condemnation

Condemnation of land through the exercise of the state's power of eminent domain has long been recognized as a method of acquiring land for public use and rights of way. The owner must be compensated by the state. As with direct purchase condemnation is costly particularly in the coastal zone where land values are high. In addition to the financial considerations the method is generally considered "politically unpopular" and may create ill will with local residents. ^{26/}

LAND USE REGULATIONS

Zoning

Zoning is the most widely used form of land use controls today. Zoning is an exercise of state police powers. "Exclusive use zoning", the division of an area into districts in which only specific uses are permitted, is common in Connecticut. In some instances this technique has been extended to allow the creation of special recreational, open space zones, and flood prone zones. The legality of such zoning has not, however, been clearly established. Regulation can not be so severe as to be confiscatory. The failure of the judiciary to clearly define the line between regulation and "taking" of land without just compensation tends to discourage many states from employing land use regulation techniques for access enhancement.

Setbacks, subdivision regulations, and official map

Setbacks, subdivision regulations and the use of an official map are generally applied in conjunction with zoning regulations, each provides potential for enhancing access when applied in "innovative" ways. The techniques are, however, subject to the same legal uncertainties as zoning the use of compensable regulations, a system under which property owners would be compensated for losses suffered as a result of restrictive regulations on their properties, may reduce the "legal objectives" to zoning techniques.

Tax Techniques

The use of preferential tax assessments or other tax incentives, may be a useful method for encouraging land owners not to develop. Tax assessments based on current use rather than the potential land use can encourage owners to leave lands in low development. The use of this and

^{26/} Ibid., p. 5-1.

other land use regulations offers great promise for both enhancing public shorefront access and for encouraging the provision of open space. The use of such techniques should be carefully considered.

PROVISION OF ACCESS BY THE PRIVATE SECTOR

The private-commercial sector presently provides most of the recreational boating access areas in Connecticut. Incentives for the private sector to increase this access and to provide other forms of recreational access could prove beneficial for both public and private sectors provided proper regulations existed. "Much of the private resistance to increased public access, particularly perpendicular access across private land, could be eliminated through grants of immunity (to tort liability) for grantors of access easements to public entities." ^{27/}

INCREASED ACCESS THROUGH AFFIRMATION OF EXISTING PUBLIC RIGHTS

Many states, notably Texas, Oregon, California, Florida and New York, have applied common-law principles to upland areas and have successfully demonstrated the public right to these areas. In these states litigation and legislation has confirmed the public's rights to beach access. Five major legal doctrines are commonly applied to maintain or re-establish public access rights to privately held lands. They are: 1) the public trust doctrine; 2) adverse possession; 3) prescription; 4) implied dedication and 5) customary rights. The application of these doctrines and the use of legislation (A National Open Beach Bill was first introduced in Congress in 1968) will undoubtedly become increasingly significant as coastal appreciation increases.

The interested reader should refer to Coastal Recreation: A handbook for Planners and Manager, Shoreline for the Public, and the National Open Beaches Bill for a more thorough discussion of these enhancement techniques.

MANAGEMENT TECHNIQUES

Innovative management practices have the potential to increase the use at existing access points and to reduce many of the obstacles facing the development of new access points.

Parking, or dependence on the automobile, is one of the greatest access limiting factors. Alternative means of transportation to access points need to be considered. While many access areas are currently on buslines, improvements and publicity for this service are needed. (Those facilities served by bus are noted in Appendix D). The use of park and ride lots has been extremely successful in Connecticut. A direct extension and potential re-use of commuter lots appear feasible given. The proximity of the shore and route 95. The provision of shuttle-bus service from off-site parking lots to state recreation areas would allow more persons to use the

^{27/} Ibid., p. 5-7.

facility without the construction of new support facilities. While this would allow more of the existing park land to remain undeveloped and alleviate congestion of the access routes, it would not increase the capacity of the swim beach during peak use periods.

Methods for distributing the peak demand use which is characteristic at shorefront recreation areas have been suggested. While many of these suggestions do not appear feasible, the use of alternative transportation, off-site parking and differential fees may help reduce the problems associated with peaking. Consideration should also be given to re-locating existing non-coastal dependent uses. Areas suitable for reuse have been identified in chapter IV . The concept of prioritizing coastal uses should be built into the overall coastal planning process.

COMPLEMENTARY LEGISLATION AND FUNDING

As with all sections of the Coastal Zone Management Act coordination between all federal and state legislation regulating or influencing shorefront access must be accounted for in the formulation of management proposals.

Federal responsibilities in the coastal zone are exerted by a great number of different federal agencies. A summary of federal recreation responsibilities in the coastal zone was prepared by the Office of Coastal Zone Management. Since Connecticut has no significant national, recreational or preserve areas in its coastal zone, this summary of federal responsibilities appears in Appendix H.

There are two major sources of federal funding available to states for shorefront recreation and/or access. Limited funds specific to shorefront access planning (section 305(b)(7)) will be available to the State on a cost sharing basis under section 315(2) of the Coastal Zone Management Act of 1972. Rules and regulations governing the allocation of these funds are currently being developed.

The Bureau of Outdoor Recreation (BOR) administers the Land and Water Conservation Fund (LAWCON), grants-in-aid to states for the acquisition and development of recreation lands on a 50% cost sharing basis. States must have prepared and updated comprehensive outdoor recreation plans (SCORP's) to qualify for these funds.

Additional sources of federal funds are listed in Appendix H. The possibility for joint use of these federal funds for the acquisition and development of coastal recreation and preserve areas exists. Federal funds may not, however, be used to match federal funds. The state must match funds received from each federal program from state or local funds and not from other federal monies allocated for coastal recreational land acquisition and development.

EXISTING POLICY RECOMMENDATIONS

THE STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN FOR CONNECTICUT (SCORP)

The preparation and adoption of a statewide comprehensive outdoor recreation plan such as Connecticut SCORP is a prerequisite for the receipt of federal monies under the Land and Water Conservation Fund Act of 1965. Expenditures of BOR/LAWCON grants for acquisition or development of outdoor recreation areas must be in keeping with the goals of this plan. 28/

The administration of SCORP and all outdoor recreation programs and monies in Connecticut is the responsibility of various units within the Department of Environmental Protection. SCORP does not include a plan for implementing the goals and recommendations identified within it. SCORP represents, therefore, an "action plan" to be addressed when monies for outdoor recreation are available. This "action plan" is described in two tiers:

1. "Goal oriented activities" which the Department of Environmental Protection (DEP) should follow and
2. Specific recommendations for action.

The following is a list of goals and recommendations, from SCORP, which are particularly relevant to shorefront recreation and shorefront access:

Goal

"To protect and foster the optimum use of Connecticut's marine resources."

Recommendations

27. Continue to encourage coordinated, compatible water use regulation through existing time-zoning approach to management.
28. Continue the state's role of providing simpler forms of boat launching access to significant fishing and boating waters both inland and on the sound, and through sound management to avoid excessive overuse of the State's waters.

28/ The Bureau of Outdoor Recreation (BOR) under the Land and Water Conservation Fund Act of 1965 (LAWCON, (16 U.S.C. 460, 78 stat. 897)) administers these financial assistance grants on a 50-50 cost sharing basis with states, to assist recreational planning, acquisition or development.

32. Increase present swimming capacity to correct existing deficiencies in supply and to insure an adequate supply in the future to accommodate a growing population and expected increases in rates of participation.
33. Provide an additional 5,000 units of saltwater swimming capacity annually by a joint effort of state and local governments. Because of the limited financial resources at the local level and because beaches need to serve all the State's citizens, the major part of this effort should be assumed by the State.
34. Develop Silver Sands State Park which would add an additional 10,000 swim units.
36. Acquire new coastal beaches through State action when large, privately-owned beaches, providing ample space for parking and ancillary facilities, are available for purchase. Areas frequently flooded or storm damaged should be considered for condemnation and/or acquisition.
42. Acquire off-shore islands.
52. Give top priority to acquiring tidal wetlands which are of sufficient size (minimum 100 acres) to provide hunting opportunity and which can be managed for shorebirds and waterfowl.
94. Establish a special project acquisition fund to acquire special, large-scale projects, which are beyond the fiscal capability of the regular state action program and whose preservation may require prompt action by the state. Such major emergency acquisitions may include storm - damaged shoreline areas, key sites with significant recreation potential, and large, unique tracts of land with conservation district potential.

Little progress has been made towards realizing the goals and recommendations of SCORP, particularly those involving shorefront access, due to the current financial and administrative constraints. New acquisitions, while not being ruled out, are not being encouraged due to state budgetary constraints. Increasing emphasis is being placed on the management efficiency of acquisitions or gifts. The number of land parcels which constitute "managable units" along the coast are very limited due to ownership and development patterns. 29/

29/ The term "managable unit" is a general term used to refer to land areas which are economically feasible to manage. While there is no clear line between economically efficient and non-efficient areas it is generally the case that small isolated land areas are inefficient to manage due to the high cost of providing maintenance personnel and equipment.

State actions are currently being directed towards expansion of existing state beach facilities. An environmental impact statement for the proposed expansion at Rocky Neck is currently under review.

LONG ISLAND SOUND REGIONAL STUDY RECOMMENDATIONS

People and the Sound, a regional study of Long Island Sound prepared by the New England River Basins Commission has made recommendations for federal, state and local actions to improve access to the Sound. ^{30/} The limited data base used in the preparation of the LISS raises many questions concerning both the accuracy and feasibility of these recommendations. Congress will debate the validity of the recommended federal actions during its review of the recently introduced Long Island Sound Heritage Plan. Review of the state and local recommendations will have to be made by the individual parties. A quick first review of these recommendations raises many questions; notably the figures for acquisition of new shorefront property are unrealistic given the physical resource limitations and land use development patterns. In reviewing the study's recommendations the weakness in baseline data and the absence of feasibility studies should be considered.

Federal Actions

The Long Island Sound Study concluded that there exists:

"(1) a serious shortage of general public open lands along the shore of the Sound; (2) large concentrations of recreationally deprived low and moderate income families throughout and on the edges of the study area; (3) very limited state and local financial resources for providing significantly increased access to the sound; and (4) a clear federal interest in the general health and use of the Sound, as evidenced by the massive federal expenditures committed to its restoration."

The report concluded that the establishment of a federally administered national park was an inappropriate means for increasing access to the Sound, although there are currently no significant federally owned recreation lands in Connecticut. Alternatively, the plan proposed that federal monies be made available to assist New York and Connecticut in acquiring and developing specific shorefront areas referred to collectively as the Long Island Sound Heritage. Recently, Senator A. Ribicoff introduced legislation in congress to implement this proposal (see the following discussion).

^{30/} New England River Basins Commission, People and the Sound: Summary (July 1975) p. 20.

State Actions (Applies to both Connecticut and New York)

1. By 2020, acquire and develop 11,000 acres of land.
2. Redevelop for recreation 3.3 miles of shoreline presently located on the flood plain, prior to natural disaster.
3. Develop fund to acquire shorefront property following natural disaster.
4. Develop and expand existing parks and beaches.
5. Regulate land use in open space system.
6. Pass enabling legislation to allow right of first refusal to the public sector for private recreation resources up for sale.
7. Establish property tax allowance for private recreation enterprise.

Local Actions

1. By 2020, acquire and develop 1800 acres of land.
2. Develop fund to acquire shorefront property following natural disaster.
3. Develop existing parks and beaches.
4. Open parks and beaches to all on weekdays.
5. Expand and diversify urban recreation programs.
6. Develop public marinas.

THE LONG ISLAND SOUND HERITAGE BILL

Senator Ribicoff recently introduced the Long Island Sound Heritage Bill to Congress (August 1, 1977). The bill calls for the appropriation of 50 million dollars to provide New York and Connecticut with up to 75 percent of the costs of acquiring and/or developing fifteen areas of participation recreation, scenic and conservation value on Long Island Sound.

The following areas in Connecticut were cited for initial inclusion in the Heritage plan:

1. Bluff Point State Park
2. Ram, Dodges and Andrews Island in the Mystic Island group.

3. Rocky Neck State Park including Niantic State Farm for Women.
4. Stony Creek Quarry and Faulkner's Island.
5. Lighthouse Point Park
6. Silver Sands State Park
7. Pleasure Beach, Long Beach and Great Meadow Wetland Complex.
8. Sheffield Island and Chimon Island (Norwalk)
9. Sherwood Island State Park

The plan calls for federal acquisition of these lands and federally supported state administration of the areas. Management of the areas would have to be in keeping with the "heritage". It is too early to determine the future of this bill, although it is expected to have a "long and stormy course through Congress." 31/

The Long Island Sound Heritage Bill would provide Connecticut with needed funds for development and restoration of recreational facilities along the coast, but would not greatly increase state land holdings. The state currently owns Bluff Point, Rocky Neck, Silver Sands and Sherwood Island. Lighthouse Point, Pleasure Beach and Long Beach are municipally owned. The number of new recreational opportunities which this Bill would provide for Connecticut is not, therefore, as great as it may appear.

31/ The New York Times, (Sunday, July 31, 1977) section 11 p. 1.

PLANNING FOR INCREASED SHOREFRONT ACCESS IN CONNECTICUT

The Coastal Zone Management Act of 1972 requires that a planning process for the protection of and access to public beaches be developed as part of a state's overall coastal management program. The nature and scope of this planning process depends on the coastal recreational resources and opportunities available in the state.

COASTAL RECREATIONAL RESOURCES AND OPPORTUNITIES -- SUMMARY

1. Connecticut has a limited amount of coastal resource suitable for "traditional" coastal recreation activities. Sandy beaches account for only 18.4% of the coastline. Patterns of development and associated degradation in water quality further limit the suitability and attractiveness of many coastal areas for recreation. (Chapter III)
2. Connecticut has 84.5 miles of sandy beach. Ownership of this beach is dispersed between three state owned beaches, some 70 municipal beaches, over 100 private associations or clubs and countless private individuals. Public ownership accounts for 36% of this sandy beach. Over 75% of this publicly owned beach is currently used for recreational swimming. Three-quarters of the designated public recreational beaches are accessible to the general public. In addition to the access afforded by non-beach coastal resources, 29% of Connecticut's sandy beaches are accessible to the general public. (Chapter III).
3. The expressed demand for coastal swimming and boating activities currently exceeds the available supply. Both state and municipal beaches are used to capacity and over on peak summer days. Estimates made by SCORP reveal a deficit of over 20,000 saltwater swim units currently exists. Deficit figures for the other coastal recreational opportunities in the State are not available. (Chapter III)
4. Opportunities for increasing recreational facilities and increasing shorefront access do exist. The greatest limiting factor to the development of new recreational areas is money. Unlike most other Atlantic coast states, Connecticut has no significant federally owned recreational land. The burden for development and maintenance of recreational areas falls solely on the state and municipal governments. (Chapter III)

PROPOSED SHOREFRONT ACCESS PLANNING PROCESS

SCORP, the Statewide Comprehensive Outdoor Recreation Plan, outlines both recreational policies and an action plan for recreational development within the state. The plan outlines a method for the determination of recreational need which considers the critical recreational goals and conflict (See SCORP Appendix XIV). The effectiveness of the SCORP action

plan is determined by the availability of recreational funds. The recent budgetary constraints at the state level have resulted in recreational planning (and thus the updating of SCORP) receiving less than priority consideration.

SCORP encompasses the major elements which a shorefront enhancement planning process should entail. It is most appropriate for the shorefront access planning process to become a subsection of a revised and revitalized statewide comprehensive outdoor recreation plan. In this manner, coastal recreation can be considered and balanced in light of statewide recreation demands and opportunities.

First Priority Actions

- Didn't
score do this*
1. Undertake a coastal recreational user study to identify and quantify recreational demand. This study should include a survey of all potential coastal recreational activities. A coastal user demand survey should occur in conjunction with a statewide outdoor recreation demand study. Regular updating of both the demand data and the supply of recreational facilities should occur. The combination of regularly updated, comprehensive supply and demand data with implementation-oriented policies should insure that "need" determinations for both coastal and non-coastal activities are appropriately made.
 2. Prioritize existing recommendations for improving shorefront access and expend available monies on high priority projects. Sources of federal and state funding for these land acquisitions and/or development should be fully investigated and applications for appropriate funds made. Both the strengthening and enforcement of existing water pollution control legislation must occur in conjunction with the prioritization.

Specific recommendations

The following specific recommendations should be considered "high priority". The priority assignment system must, however, remain flexible in light of pending federal legislation (The Heritage Plan) and in the absence of a reliable user preference-demand study.

1. Develop Silver Sands/Charles Island State Park Complex. The state should undertake all necessary steps to curb the sources of water pollution and resolve ownership conflicts which are making the development of Silver Sands currently infeasible. The development of Silver Sands would greatly increase the saltwater swim opportunities in the greater New Haven area.

2. Develop additional boat launching sites. The construction of boat launching sites and the maintenance of existing launch ramps is funded from the boating fund (State Statutes 15-155). A re-evaluation of the fund allocation process appears appropriate. Additional sources of funding should be investigated. Notably the use of the currently unclaimed marine gas sales tax should be studied as a source of potential funds to augment the boating fund.
3. The potential of rights-of-way for increasing access to the public beach should be evaluated to determine their feasibility. Provisions for accepting and/or acquiring small parcels of land suitable for such right-of-way should be made.
4. Methods of securing access-ways to the public beach, other than by direct purchase of upland and dry sand areas should be studied and steps to implement alternative methods taken.
5. The feasibility of reusing current state owned non-recreational coastal lands for recreation should be determined.
6. Provisions for requiring the removal of barriers extending below mean high water which obstruct passage along the public beach should be made.

* * * *

It is our conclusion that general public access to the public beaches of Connecticut could be greatly enhanced by both the inclusion and implementation of this shorefront access plan as part of the State-wide Comprehensive Outdoor Recreation Plan and by a state policy declaration affirming the public rights in these coastal areas.

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APPENDIX A

NATIONAL OUTDOOR RECREATION PARTICIPATION RATES

Table A - Number of participants in selected outdoor recreation activities,
United States totals, 1970

Activity	Persons 9 and over <u>1/</u>		Persons 12 and over <u>2/</u>	
	Number of participants (Thousands)	Percent of population	Number of participants (Thousands)	Percent of population
Picnicking	82,147	49	73,843	48
Swimming	77,298	46	67,746	44
Playing outdoor games or sports	59,985	36	51,547	33
Attending sports events and concerts	59,374	35	53,956	35
Walking for pleasure	50,270	30	46,410	30
Fishing	49,435	29	44,089	28
Boating	41,136	24	37,596	24
Bicycling	37,112	22	28,837	19
Camping	35,199	21	30,885	20
Nature walks	30,509	18	26,906	17
Hunting	20,887	12	19,814	13
Horseback riding	16,054	10	13,484	9
Bird watching	7,457	4	6,813	4
Wildlife and bird photography	4,864	3	4,519	3
Other reported activities	10,655	6	9,778	6
No participation	40,006	24	38,823	25

1/Based on estimated civilian noninstitutional population of 167,944,000
in December 1970.

2/Based on estimated civilian noninstitutional population of 155,230,000
in December 1970.

Source: The 1970 Survey of Outdoor Recreation Activities Bureau of Outdoor Recreation,
1972

SWIMMING, PERSONS 9 AND OVER

Characteristic	Number of participants (Thousands)	Percent of pop- ulation	Recreation days (Thousands)	Days per person	Days per part.
Census Region					
Northeast	20,312	51.7	449,998	11.4	22.2
North Central	22,652	47.0	467,064	9.7	20.6
South	20,596	39.5	411,340	7.9	20.0
West	13,739	48.6	393,595	13.9	28.6
Census Division					
New England	5,229	56.8	116,502	12.7	22.3
Middle Atlantic	15,082	50.1	333,496	11.1	22.1
E. North Central	16,403	48.0	345,746	10.1	21.1
W. North Central	6,249	44.5	121,317	10.1	19.4
South Atlantic	10,431	40.9	247,322	9.7	23.7
E. South Central	3,939	36.5	60,861	5.6	15.5
W. South Central	6,227	39.2	103,158	6.5	16.6
Mountain	3,021	48.2	62,969	10.1	20.8
Pacific	10,718	48.7	330,626	15.0	30.8

BOATING, PERSONS 9 AND OVER

Characteristic	Number of participants (Thousands)	Percent of pop- ulation	Recreation days (Thousands)	Days per person	Days per part.
Census Region					
Northeast	9,120	23.2	95,661	2.4	10.5
North Central	13,726	28.5	139,889	2.9	10.2
South	10,924	20.9	117,325	2.2	10.7
West	7,366	26.1	68,655	2.4	9.3
Census Division					
New England	2,554	27.7	33,531	3.6	13.1
Middle Atlantic	6,566	21.8	62,131	2.1	9.5
E. North Central	9,479	27.7	101,242	3.0	10.7
W. North Central	4,248	30.3	38,647	2.8	9.1
South Atlantic	5,204	20.4	62,687	2.4	12.0
E. South Central	2,131	19.7	20,500	1.9	9.6
W. South Central	3,589	22.6	34,138	2.1	9.5
Mountain	1,663	26.6	13,233	2.1	8.0
Pacific	5,703	25.9	55,422	2.5	9.7

APPENDIX B
TOWN SHORELINE DESCRIPTIONS

Greenwich

	<u>Miles</u>
Coastal frontage*	27.2
Sandy beach	1.7
<u>Public:</u>	
State	--
Town	.6
<u>Private:</u>	
Individuals	.7
Associations	.4

Shoreline Description

The shoreline in Greenwich is highly irregular and composed mainly of rocky shoreline with tidal marshes and very few beaches. Two large islands, Calf and Great Captain's provide recreational opportunities in the town.

Water quality is below standard in both Greenwich and Cos Cob Harbors.

Stamford

	<u>Miles</u>
Coastal frontage*	15.0
Sandy beach	3.4
<u>Public:</u>	
State	--
Town	1.0
<u>Private:</u>	
Individuals	2.4
Associations	--

Shoreline Description

Stamford, like Greenwich, has an irregular rocky shoreline along which much filling and bulkheading has occurred. A large portion of the beach occurring in the town is artificial.

Water quality in Stamford is a particular problem. Much of Stamford Harbor is "C Class" water unsuitable for swimming. It can be assumed that in this and other urban harbors along the coast poor water quality detracts from the recreational potential of harbor areas as well as surrounding shore frontage.

Darien

	<u>Miles</u>
Coastal frontage*	16.5
Sandy beach	.3
<u>Public:</u>	
State	--
Town	.2
<u>Private:</u>	
Individuals	--
Associations	.1

Shoreline Description

The Darien shoreline, like those of Greenwich and Stamford, has few beaches. Several offshore islands may, however, have recreational potential.

Norwalk

	<u>Miles</u>
Coastal frontage*	17.0
Sandy beach	.6
<u>Public:</u>	
State	--
Town	.4
<u>Private:</u>	
Individuals	.2
Associations	--

Shoreline Description

The Norwalk shoreline, like those to the west, is irregular with few natural beaches. Those beaches found in the town are largely artificial. Many offshore islands, many with good quality sandy beaches occur in this area. Of the islands in the Norwalk group, Sheffield, Ram and Chimmons Islands appear to have high recreational potentials.

Poor water quality is a limiting factor particularly in the harbor area.

Westport

	<u>Miles</u>
Coastal frontage*	18.9
Sandy beach	5.9
<u>Public:</u>	
State	1.1
Town	1.7
<u>Private:</u>	
Individuals	2.5
Associations	.6

Shoreline Description

The Westport shoreline is composed almost entirely of narrow sandy beach of both natural and artificial origin. Much of the shoreline is in public ownership and is managed to control erosion. Both Compo Beach and Sherwood Island State Park have been artificially nourished. Private ownership (in residential areas) accounts for several large stretches of beach in the town.

Fairfield

	<u>Miles</u>
Coastal frontage*	10.4
Sandy beach	3.2
<u>Public:</u>	
State	--
Town	1.1
<u>Private:</u>	
Individuals	2.1
Associations	--

Shoreline Description

Fairfield is an area of naturally occurring sand deposits. The longest continuous segment of beach is Fairfield Beach, a narrow barrier beach which is immediately backed by residential development. This beach has been described as a "vulnerable area" which is particularly subject to flooding and storm damage. Both the high density residential development and poor water quality extending from Bridgeport Harbor currently limit the recreational potential of this area. Consideration to the future reuse of Fairfield Beach should be given.

Bridgeport

	<u>Miles</u>
Coastal frontage*	18.0
Sandy beach	2.5
<u>Public:</u>	
State	--
Town	2.5
<u>Private:</u>	
Individuals	--
Associations	--

Shoreline Description

Bridgeport has several miles of public sandy beach. While access to this resource is not a problem, water quality is a major deterrent. The emphasis in the region from Bridgeport to New Haven, where much of the state's sandy beaches are found, must be on upgrading the water quality. Such improvements would greatly enhance the state's coastal recreational opportunities.

Stratford

	<u>Miles</u>
Coastal frontage*	13.2
Sandy beach	4.9
<u>Public:</u>	
State	--
Town	3.2
<u>Private:</u>	
Individuals	.4
Associations	1.3

Shoreline Description

Stratford like Bridgeport and Milford has many long sandy beaches whose recreational potential is limited by poor water quality.

Milford

	<u>Miles</u>
Coastal frontage*	19.3
Sandy beach	8.7
<u>Public:</u>	
State	.5
Town	1.3
<u>Private:</u>	
Individuals	3.8
Associations	3.1

Shoreline Description

The Milford shoreline, composed largely of artificially nourished beaches, forms a continuous segment of narrow beach backed by seawalls. Residential development in many areas of the town sits on or immediately behind the beach. Much of this housing is structurally deficient and flood prone. Accordingly, many areas have been suggested for redevelopment.

Ownership of Milford's beaches is difficult to determine due to the mixing of public and private rights-of-way and the confused nature of the shoreline development.

Water quality, particularly in the vicinity of Silver Sands State Park, is in need of improvement.

West Haven

	<u>Miles</u>
Coastal frontage*	7.9
Sandy beach	4.4
<u>Public:</u>	
State	--
Town	3.9
<u>Private:</u>	
Individuals	.5
Associations	--

Shoreline Description

The immediate shoreline between Woodmont and West Haven is characterized by bedrock outcrops and boulders. To the east is a long section of sandy beach which has received extensive artificial nourishment. The majority of this beach frontage is publicly held. Access to this area is limited only by parking availability and water quality.

New Haven

	<u>Miles</u>
Coastal frontage*	18.0
Sandy beach	1.3
<u>Public:</u>	
State	--
Town	.9
<u>Private:</u>	
Individuals	.4
Associations	--

Shoreline Description

Lighthouse Point is the only beach of significance in New Haven. The area has received fill numerous times and water quality has forced the closing of portions of this beach and has reduced the attractiveness of the entire park.

East Haven

	<u>Miles</u>
Coastal frontage*	3.4
Sandy beach	2.3
<u>Public:</u>	
State	--
Town	.1
<u>Private:</u>	
Individuals	2.2
Associations	--

Shoreline Description

East Haven has a segment of sandy beach (West Silver Sands and Silver Sands) which has been artificially nourished and protected by seawalls in many areas.

Housing immediately backs the beach in several sections and as in Milford much of this housing is structurally unsound and flood prone. Redevelopment of these areas should be encouraged.

Branford

	<u>Miles</u>
Coastal frontage*	18.6
Sandy beach	3.4
<u>Public:</u>	
State	--
Town	.2
<u>Private:</u>	
Individuals	
Associations	3.2 (all small parcels largely association held)

Shoreline Description

Branford's shoreline is one of extensive bedrock outcroppings and tidal marshes. Only a few small pocket beaches and short segments of artificial beaches occur.

Guilford

	<u>Miles</u>
Coastal frontage*	14.8
Sandy beach	1.4
<u>Public:</u>	
State	--
Town	.7
<u>Private:</u>	
Individuals	.1
Associations	.6

Shoreline Description

Guilford, like Branford, has a rocky shoreline with many marshes. The small beaches which do occur are largely artificial.

Madison

	<u>Miles</u>
Coastal frontage*	8.5
Sandy beach	6.1
<u>Public:</u>	
State	2.1
Town	.4
<u>Private:</u>	
Individuals	2.1
Associations	1.5

Shoreline Description

The Madison shoreline is part of a segment of coast composed of glacial till and naturally occurring beaches. The largest continuous stretch of beach in the town is Hammonasset. This barrier beach, once backed by tidal marsh, is a critical erosion area which has received artificial nourishment repeatedly. While there is a large proportion of beach frontage in private ownership it may be assumed from the density of the surrounding residential development that these narrow beaches receive heavy use.

Clinton

	<u>Miles</u>
Coastal frontage*	8.7
Sandy beach	4.0
<u>Public:</u>	
State	.5
Town	.2
<u>Private:</u>	
Individuals	1.5
Associations	1.8

Shoreline Description

The Clinton shoreline, like Madison, is characterized by naturally occurring beaches. Most of these beaches are subject to high erosion and artificial fill and beach protection efforts such as seawalls and groins are common. As in Madison, private ownership is common but residential density is also quite high in the immediate coastal area.

Westbrook

	<u>Miles</u>
Coastal frontage*	7.4
Sandy beach	3.9
<u>Public:</u>	
State	--
Town	.6
<u>Private:</u>	
Individuals	.4
Associations	2.9

Shoreline Description

Westbrook's shoreline, like that of Madison and Clinton, is characterized by naturally occurring beaches which have received artificial fill and have been groined in many areas. Private ownership and residential development of shoreline areas is high.

Old Saybrook

	<u>Miles</u>
Coastal frontage*	18.6
Sandy beach	4.9
<u>Public:</u>	
State	--
Town (including Borough of Fenwick)	1.5
<u>Private:</u>	
Individuals	.6
Associations	2.8

Shoreline Description

Most of the shoreline of Old Saybrook is composed of naturally occurring narrow beaches which have been artificially nourished and protected in many areas. Private/association ownership of beaches is high, these beaches are however narrow and ephemeral in many stretches and may well be used to capacity by local residents.

Old Lyme

	<u>Miles</u>
Coastal frontage*	17.1
Sandy beach	4.3
<u>Public:</u>	
State	--
Town	.4
<u>Private:</u>	
Individuals	.3
Associations	2.3
Conservation	1.3

Shoreline Description

Old Lyme, like Old Saybrook, is an area of naturally occurring sandy beaches along which repeated attempts at stabilization have been made. Private ownership of shorefront property is common. Improvement of access, particularly local access to the shore should be considered.

East Lyme

	<u>Miles</u>
Coastal frontage*	19.9
Sandy beach	6.3
<u>Public:</u>	
State	.5
Town	1.4
<u>Private:</u>	
Individuals	2.9
Associations	1.4
Conservation	.04

Shoreline Description

The shoreline of East Lyme is characterized by numerous bedrock exposures, thin beaches, and barrier beaches connecting headlands. The largest of these barrier beaches is Rocky Neck State Park. Much of the shorefront property is privately held but the density of residential development would indicate that beaches are well used by local residents.

Waterford

	<u>Miles</u>
Coastal frontage*	22.4
Sandy beach	4.0
<u>Public:</u>	
State	.8
Town	.2
<u>Private:</u>	
Individuals	1.7
Associations	.5
Commercial	.8

Shoreline Description

Waterford, like East Lyme, has an irregular shoreline characterized by bedrock exposures and barrier beaches stretching between headlands. Beach stabilization structures are common. Two existing state owned non-recreational shorefront facilities are located in this town, their potential for recreational use should be evaluated.

New London

	<u>Miles</u>
Coastal frontage*	9.1
Sandy beach	2.1
<u>Public:</u>	
State	--
Town	.4
<u>Private:</u>	
Individuals	1.3
Associations	.4

Shoreline Description

New London's coastal frontage is largely riverine and the occurrence of beaches is therefore limited to the areas near the mouth of the Thames River. Commercial and industrial development in this area is high and detracts from many types of recreation in this area. Ocean Beach, the major beach in New London, is largely composed of artificial fill.

Groton

	<u>Miles</u>
Coastal frontage*	26.9
Sandy beach	3.8
<u>Public:</u>	
State	1.5
Town	.4
<u>Private:</u>	
Individuals	.8
Associations	1.1

Shoreline Description

Groton's shoreline is composed of rocky headlands connected by barrier beaches. These barrier beaches include Bushy Point Beach and Groton Long Point. Bushy Point Beach, a tombolo, has been identified as a critical erosion area along which many of the state's remaining sand dunes occur. This tombolo is appropriately located within the boundaries of Bluff Point Coastal Reserve. Groton Long Point Beach is heavily residentially developed.

Stonington

	<u>Miles</u>
Coastal frontage*	37.9
Sandy beach	1.0
<u>Public:</u>	
State	--
Town	.2
<u>Private:</u>	
Individuals	.7
Associations	.1

Shoreline Description

Stonington, like Branford and Guilford, has a highly irregular coastline dominated by bedrock exposures. There are no beaches of significance in the town.

Coastal Frontage* of Riverine Towns

	<u>Miles</u>
Shelton	7.9
Orange	.75
Hamden	3.4
North Haven	3.0
Essex	8.5
Deep River	2.8
Chester	2.8
Lyme	6.8
Montville	8.7
Norwich	9.5
Ledyard	7.2
Preston	4.0

* Coastal frontage was measured on USGS 7.5 minute Topographic maps for both coastal and riverine towns. In wetland areas, frontage was determined by measuring the exterior waterfront perimeter of the marsh.

APPENDIX C
BEACH ASSOCIATIONS

BEACH ASSOCIATIONS

BRANFORD

Hotchkiss Grove

Indian Neck

Lamphier Cove

Linden Shores Erosion Control District

Short Beach Civic Association

Stony Creek

CLUBS

Double Beach Surf and Pool Club

Owengo Inn

BEACH ASSOCIATIONS

CLINTON

Beach Park Point (Beach Park Road)

Clinton Beach

Grove Beach

Harbor View

BEACH ASSOCIATIONS

DARIEN

Beach Drive

Delafield Island

Nash and Pratt Island

Noroton Bay

Sea Gate

Tokeneke

CLUBS

Tokeneke Beach Club

CLUBS

EAST HAVEN

Colony Beach and Tennis Club

BEACH ASSOCIATIONS

EAST LYME

Attawan Beach

Black Point Beach

Community Beach

Ct. Spiritualist Community

Crescent Beach

Davis Beach

Giant's Neck

Giant's Neck Height Inc.

Niantic Beach and Marina

Oak Grove Beach

Old Black Point

CLUBS

Groton Long Point Yacht Club

BEACH ASSOCIATIONS

FAIRFIELD

Fair Acres

First Beach Corp.

Lordship Beach

Lund Court, Inc.

North Pine Creek Property Owners

W.O. Burr Corp.

CLUBS

Fairfield Beach Club

Holiday Beach Club

Sea Lodge (Sasquanaug Society for Village Improvement)

BEACH ASSOCIATIONS

GREENWICH

Belle Haven Land Owners

Byram Point

Field Point Park

Harbor Point

Indian Harbor

Lucus Point Home Owners

Meads Point

Old Greenwich

Riverside

Shoreham Club

South Cos Cob

Willowmere

CLUBS

Belle Haven Beach Club

Hawthorne Beach

Riverside Yacht Club

Rocky Point Yacht Club

Calf Island (YMCA)

BEACH ASSOCIATIONS

GROTON

Groton-Long Point Beach Association

CLUBS

Groton-Long Point Yacht Club

Shennocossett Beach Club

BEACH ASSOCIATIONS

GUILFORD

Indian Cove

Little Harbor

Mullberry Point

Old Quarry

Sachems Head

Tuttles Point

BEACH ASSOCIATIONS

MADISON

Barberry Farms

C & L Realty

Five Field Homeowners

Harbor Avenue

Kelsey Place Realty

Lee Manor

Overshores

Seaview Beach

Waterbury Avenue

PRIVATE/CLUB

Madison Beach

Shoreland Inc.

BEACH ASSOCIATIONS

MILFORD

Bayview Beach

Laurel Beach

Point Beach Improvement

CLUBS

Surf Club West

BEACH ASSOCIATIONS

NEW LONDON

Bellard Beach

Guthrie Beach

Neptune Park Beach

Pequot Point Beach

958 Corporation

BEACH ASSOCIATIONS

NORWALK

Bell Island Improvement

Harborview

Marvin Beach

Norwalk

Rowayton Beach

Shore Island Neighborhood

Shorefront Park

Wilson Point

Village Creek Homeowners

CLUBS

Ascension Beach Club

East Beach

Norwalk Shore and Country Club

Roten Point Beach Club

Shorehaven Country Club

South Beach

*

Hickory Bluff Shore (commercial)

BEACH ASSOCIATIONS

OLD LYME

Hatchetts Point

Miami Beach

Old Colony

Old Lyme Shores

Point O'Woods

White Sands

CLUBS

Hawks Nest Beach Club

Mile Creek Beach

Old Lyme Beach Club

BEACH ASSOCIATIONS

OLD SAYBROOK

Chalker Beach

Cornfield Point

Indiantown

Knollwood

Saybrook Manor

BEACH ASSOCIATIONS

STAMFORD

Cove Neighborhood

Dolphin Cove Club

Sea Beach

Shippan Point

Soundview Manor Property Owners

Wallacks Point Park

Wescott Neighborhood

CLUBS

Ponus Yacht Club

Oceanview Beach Club

Stamford Yacht Club

Woodway Beach Club

BEACH ASSOCIATIONS

STONINGTON

Latimer Point Fire District

Lords Point

Masans Island Property Owners

Orchard Hill Beach Drive

Wadawanuck Club

Wamphassuc Point

BEACH ASSOCIATIONS

STRATFORD

Lordship Beach

Lordship Improvement

West Lordship Beach Corp.

BEACH ASSOCIATIONS

WATERFORD

Bayside Beach

Mago Point Beach

Millstone Point

Perry Beach

Pleasure Beach

Waterford Beach

BEACH ASSOCIATIONS

WESTBROOK

Island View

Grove Beach Point

Stannard Beach

BEACH ASSOCIATIONS

WESTPORT

Blue Water Hill

Burritts Landing

Compo Mill Cove

Owenoke Park

Saugatuck Shores

Stony Point

CLUBS

Cedar Yacht Club

Saugatuck Yacht Club

Sprite Island Yacht Club

*

Goose Island (Saugatuck Audubon Society)

APPENDIX D
DESIGNATED PUBLIC RECREATIONAL BEACHES

KEY

RR	Restrooms	P	Picnicking
BH	Bath Houses	B	Boating
LG	Lifeguards	F	Fishing
DW	Drinking Water	C	Camping
		A	Athletic Fields, Playgrounds etc.

ACCESS RESTRICTIONS

1. Public Facility - General Access
 - A. No Fee
 - B. Parking
2. Public Facility - General Access with Fee or Pass
 - A. Flat fee for all persons
 - B. Different fee rates for residents and non-residents
3. Town Facility: Open to Residents Only by Pass
 - A. Free
 - B. Fee
4. Town Facility: Parking Sticker Required
 - A. Available to residents only
 1. Free
 2. Fee
 - B. Available to residents and non-residents
 1. Free
 2. Fee
5. Private: Open to residents or members only (clubs and associations)
6. Private: Commercial
7. Other: Not generally accessible and/or known of
8. Availability of parking spaces is only restriction

This listing of designated public recreational beaches includes only that beach which is currently used as recreational beach. The total frontage accounted for will differ slightly, therefore, from the mapped frontage figure in public ownership (in text of report) which includes undesignated or unusable public beach area.

	NAME	LOCATION	OWNERSHIP	RESTRICTIONS	BEACH FRONTAGE (feet)	BEACH AREA (acres)	PROPERTY (acres)	PARKING SPACES
1.	Byram Shore Beach	Greenwich	Town	3B	610	1.6	22	172-250
2.	Island Beach Park	Little Captains Island	Town	3B	1,400	2.4	4	
3.	Great Captains Island	Great Captains Island	Town	3B	2,000	4.9	16.3	
4.	Greenwich Point Park	Greenwich	Town	3B	2,400	13.0	148.3	7,000
5.	Southfield Beach	Stamford	City	1-Closed	300			
6.	Dyke Beach(Kosciusko Park)	Stamford	City	1-Closed	350			
7.	Cummings Park	Stamford	City	4B2	2,050	4.6	93.5	400
8.	Cove Island Park	Stamford	City	4B2	2,200	4.4	82.9	315
9.	West Beach	Stamford	City	4B2	600	.6	8.4	110
10.	Weed Beach	Darien	Town	2B	670 (370 of U.D.)	1.8	20	250
11.	Pear Tree Point	Darien	Town	2B	430	.75	6.9	240
12.	Calf Pasture Beach	Norwalk	City	2B	1,760	7.5	44	
13.	Bayley Bell Island	Rowayton Norwalk	City	3A	400	.9	7	
14.	Sherwood Island State Park	Westport	State	1B	5,600	140	234	5,000
15.	Compo Beach	Westport	Town	4A2	3,800	9	30.3	1,100
16.	Burying Hill	Westport	Town	4A2	500	1.1	6.2	50
17.	Old Mill	Westport	Town	4A2	450	.7	1.8	40
18.	Jennings Beach	Fairfield	Town	4A2	2,000	9.2	22.9	1,500
19.	Rickards Beach	Fairfield	Town	4A2	300	.8	1.8	
20.	Penfield Pavilion	Fairfield	Town	7	900	2.1	8.5	650
21.	South Pine Creek Beach	Fairfield	Town	4A2	50	.1	4.5	25
22.	Southport Beach	Fairfield	Town	4A2	1,300	4.5	2.2	60

	FACILITIES				ACTIVITIES					1975 Attendance	1975 PEAK Day Attendance	DAILY CAPACITY	CAPACITY EXCEEDED	COMMENTS
	RR	BH	LG	DW	P	B	F	C	A					
1.	X	X	X	X	X	X	X			23,227	688	960	0	
2.	X	X	X	X	X					84,388	2,555	1,340	NA	Ferry access
3.	X	NO	X	NO	X	X	X			2,991	204	2,860	NA	Ferry access
4.	X	X	X	X	X	X	NO	X	NO	591,252	13,956	7,550	NA	
5.														Outdoor pool
6.														
7.	X	X	X	X	X	X	X	NO	X	139,075	NA	2,650	NA	Public transportation
8.	X	X	X	X	X	X	X	NO	X	141,250	NA	2,533	NA	Public transportation
9.	X	NO	X	X	X	NO	NO	NO	NO	42,750	NA	350	NA	Public transportation
10.	X	X	X	X	X	X	X	NO	X					
11.	X	X	X	X	X	X	X	NO	X					
12.	X	X	X	X	X	X	X	NO	X	800,000				
13.	X	X	X	X	X	NO	X	NO	X	566				
14.	X	X	X	X	X	NO	X	NO	X	596,712	32,852	25,000	6	
15.	X	X	X	X	X	NO	NO	NO	X					
16.	X	NO	X	X	X	NO	X	NO	NO					
17.														
18.	X	X	X	X	X	X	NO	NO	X	269,796	NA	5,300	None	
19.	X	X	X	X	X	NO	NO	NO	NO	NA	NA			
20.	X	X	X	X	X	X	NO	NO	NO	NA	NA	NA	None	
21.	X	X	X	X	X	NO	NO	NO	NO	NA	NA	NA	None	
22.	X	X	X	X	X	NO	NO	NO	NO	27,516	NA	1,200	None	

	NAME	LOCATION	OWNERSHIP	RESTRICTIONS	BEACH FRONTAGE (feet)	BEACH AREA (acres)	PROPERTY (acres)	PARKING SPACES
23.	Sasco Beach	Fairfield	Town	4A2	2,700	10.8	9.9	100
24.	Seaside Park	Bridgeport	Town	4B2	8,800	25.3	370	6,500
25.	Pleasure Beach	Bridgeport	Town	4B2	3,400	9.8	63	1,200
26.	Long Beach	Stratford	Town	4B2	8,300	6.8	36	130
27.	Short Beach	Stratford	Town	4B2	4,200	21.7	105	650
28.								
29.	Woodmont Beach	Borough of Woodmont	Town	1A/4	2,640	6	10	100
30.	Morningside Beach	Milford	Town	1		7	5	
31.	Romary Ct. - Oyster River	Milford	Town	1		7	7	
32.	Walnut Beach	Milford	Town	1	5,280	8	10	350
33.	Gulf Beach	Milford	Town	1B	900	5	10	175
34.	Anchor Beach	Milford	Town	1	600	8	8	50
35.	Silver Beach	Milford	Town					
36.	Wildmere Beach	Milford	Town					
37.	Public Beach-West Haven	West Haven	City	1B	15,840	70	90	1,000 B=10
38.	Fort Hale Park	New Haven	City	Closed to swimming	600	1	51	40-50
39.	Lighthouse Point Park	New Haven	City	1B	970 (250 usable)	9	80.4	235-400
40.	East Haven Town Beach	East Haven	Town	3	750	4	4	300-400
41.	Johnson's Beach	Branford	Town	3	150	.3	.3	

	FACILITIES				ACTIVITIES					1975 Attendance	1975 PEAK Day Attendance	DAILY CAPACITY	CAPACITY EXCEEDED	COMMENTS
	RR	BH	LG	DW	P	B	F	C	A					
23.	X	X	X	X	X	NO	NO	NO	NO	17,925	NA	1,400	None	
24.	X	X	X	X	X	X	X	NO	X	359,640	32,805	NA	None	
25.	X	X	X	X	X	NO	X	NO	X	NA	NA	NA	None	
26.	X	NO	X	X	NO	NO	X	NO	NO	12,000	1,800	3,000	None	
27.	X	X	X	X	X	NO	NO	NO	X	28,000	4,200	7,000	None	
28.														
29.														Maintained by Association
30.														On busline
31.	X	NO	X	NO	NO	NO	X	NO	NO	41,000	NA	NA	NA	On busline
32.	X	NO	X	X	NO	NO	C	NO	NO	13,750	NA	NA	NA	On busline
33.	NO	NO	X	NO	NO	NO	X	NO	NO	12,300				On busline
34.	X	X	X	X	X	X	X	NO	X		400-700	1,000		On busline
35.														
36.														
37.	X	X	X	X	X	X	X	NO	X	NA	5,000	3,500	10	
38.	X	X	X	X	NO	X	X	NO	X	65,000	3,000	1,000	6	On busline
39.	X	X	X	X	X	NO	NO	NO	X	10,440	800	None		
40.	X	NO	X	NO	X	NO	NO	NO	X					
41.	X	X	X	X	X	NO	NO	NO	X	21,000-2,700	1,200	1,500	0	On busline

NAME	LOCATION	OWNERSHIP	RESTRICTIONS	BEACH FRONTAGE (feet)	BEACH AREA (acres)	PROPERTY (acres)	PARKING SPACES
42. Stony Creek Beach Park	Branford	Town	3	125	.3	.3	
43. Parker Memorial Park	Branford	Town	4A1	360	1	12.5	30
44. Jacob's Beach	Guilford	Town	2B	1,000	1	5	200
45. Shell Beach	Guilford	Town					
46. Hammonasset State Park	Madison	State	1B	15,840	200	918	6,000 B=20-30
47. Madison Surf Club	Madison	Town	3B	1,000	4	54.5	60
48. East Wharf	Madison	Town	3B	150	.5	4	35
49. West Wharf	Madison	Town	3B	150	1.5	2.4	250
50. Circle Beach	Madison	Town					
51. Town Beach	Clinton	Town	4A1/2B	550	1.3	3.9	60-75
52. Town Beach	Westbrook	Town	4A1	3,680	6	7	200
53. Fenwick Beach	Old Saybrook	Borough	3	300	.37	--	--
54. Fenwick Pier	Old Saybrook	Borough	3	100	.1	--	--
55. Harvey's Beach	Old Saybrook	Private-Commercial	6	500	1.2	8	
56. Town Beach	Old Saybrook	Town	4A	215	.4	.8	50-65
57. Sound View	Old Lyme	Town	8	1,850	4.6	--	
58. White Sands	Old Lyme	Town	4A2	210	.52	.78	78
59. Rocky Neck State Park	East Lyme	State	1B	2,400	11	561	3,700
60. McCook Point	East Lyme	Town	3	2,400	11	561	215

	FACILITIES				ACTIVITIES					1975 Attendance	1975 PEAK Day Attendance	DAILY CAPACITY	CAPACITY EXCEEDED	COMMENTS
	RR	BH	LG	DW	P	B	F	C	A					
42.														
43.														
44.	X	NO	X	X	NO	X	NO	NO	NO	400/day	NA	NA	10	
45.														
46.	X	X	X	X	X	X	X	X	X	NA	25,000	30,000	0	
47.	X	NO	X	X	NO	X	NO	NO	NO	300/day	NA	NA	10	
48.	X	X	X	X	X	X	NO	NO	X	NA	500-600	300-400	NA	On busline
49.														
50.														
51.	X	NO	X	X	X	NO	X	NO	NO	6,000	NA	100	0	
52.	X	X	X	X	X	NO	NO	NO	NO					
53.														
54.														
55.	X	X	NO	X	X	X	NO	NO	NO					Parking limits
56.	X	NO	X	X	X	NO	NO	NO	NO	15,000	300	150-190	NA	
57.														
58.	X	X	X	X	NO	NO	NO	NO	NO	24,000	250	450	10-15	
59.	X	X	X	X	X	NO	X	X	NO	NA	15,000	12,000	3	Expansion planned
60.	X	X	X	X	X	NO	NO	X	X	NA	3,300	NA	5-10	

	NAME	LOCATION	OWNERSHIP	RESTRICTIONS	BEACH FRONTAGE (feet)	BEACH AREA (acres)	PROPERTY (acres)	PARKING SPACES
61.	Waterford Town Beach	Waterford	Town	3A	1,300	3	95	145+
62.	Ocean Beach Park	New London	Town	1B/2A	2,400	14	55	25-100
63.	Green's Harbor Beach and Park	New London	Town	on Thames River			3.5	
64.	Riverside Park and Beach	New London	Town	on Thames River			18.0	
65.	Eastern Point	Groton	Town	3	700	1.4	6	--
66.	Esker Point	Groton	Town	2A	750	3.5	16	260
67.	Groton Long Point	Groton	Town	8	2,200	2.5	2.5	20
68.	Town Beach	Groton	Town	1A	275	.5	--	65
69.	Dubois Beach	Stonington	Town	3B	200		.5	

	FACILITIES				ACTIVITIES					1975 Attendance	1975 PEAK Day Attendance	DAILY CAPACITY	CAPACITY EXCEEDED	COMMENTS
	RR	BH	LG	DW	P	B	F	C	A					
61.	X	X	X	NO	X	X	NO	NO	NO				0	
62.	X	NO	X	X	NO	NO	X	NO	NO	10,726	200-300	90-150	NA	
63.														
64.														
65.														
66.	X	X	X	X	X	NO	NO	NO	NO	30,500	NA	NA	NA	
67.														Parking limits
68.	X	X	X	NO	X	NO	NO	NO	NO	27,500	NA	NA	NA	
69.	NO	NO	X	NO	NO	NO	NO	NO	NO	15,000	200	None		

APPENDIX E
STATE BOAT LAUNCHING RAMPS;
MARINAS

STATE OWNED COASTAL BOAT ACCESS AREAS

Barn Island	Stonington
Bayberry Lane	Groton
Branford River	Branford
Connecticut River	Old Saybrook
Dock Road	Waterford
East River	Guilford
Fort Hale	New Haven
Four Mile River	Old Lyme
Great Island	Old Lyme
Lighthouse Point	New Haven
Niantic River	Waterford
Seaside Park	Bridgeport
Thames River	New London

TOWN	FACILITIES										SUPPLIES				SERVICES											
	Slips	Moorings	Winter Storage	Ramp	Railway	Lift (s)	Engine Repairs	Boat Repairs	Used Engine & Boat Sales	New Engine & Boat Sales	Fuel	Ice	Bait & Tackle	Marine Supplies - Hdwe.	Groceries	Restaurant or Snack Bar	Electricity	Water	Showers	Tide & Weather Infor.	24 Hour Security	Fire Protection	Refuse Disposal	Laundry	Swimming Pool or Beach	Pump Out Facility
<u>Branford</u>																										
1. Branford Yacht Club	Y			A	C	H	T	*	C	L	U	B	*							*	*	*	*	*	*	*
2. Pier 66, Inc.	100													*					*							
3. Goodsell Point Marina, Inc.		*	80	2	*	*	*	*	*	*	*		*	*					*	*	*	*	*	*	*	
4. Dutch Wharf	32				*	*	*	*	*	*	*		*	*					*	*	*	*	*	*	*	
5. Branford Marine Railroad	12				*	*	*	*	*	*	*		*	*					*	*	*	*	*	*	*	
6. Indian Neck Yacht Club	Y			A	C	H	T	*	C	L	U	B	*						*	*	*	*	*	*	*	
7. Bruce and Johnson's Marina, Inc.	500	*		50	*	*	*	*	*	*	*		*	*					*	*	*	*	*	*	*	
8. Pine Orchard Yacht and Country Club	Y			A	C	H	T		C	L	U	B														
9. Indian Point Yacht Club	Y			A	C	H	T		C	L	U	B														

TOWN

MARINA OR
YACHT CLUB

Branford

1. Branford Yacht Club

2. Pier 66, Inc.

3. Goodsell Point
Marina, Inc.

4. Dutch Wharf

5. Branford Marine
Railroad

6. Indian Neck Yacht
Club

7. Bruce and Johnson's
Marina, Inc.

8. Pine Orchard Yacht
and Country Club

9. Indian Point Yacht
Club

TOWN	FACILITIES	SUPPLIES	SERVICES
	Pump Out Facility		
	Swimming Pool or Beach		
	Laundry		
	Refuse Disposal		
	Fire Protection		
	24 Hour Security		
	Tide & Weather Infor.		
	Showers		
	Water		
	Electricity		
	Dockside Telephone		
	Restaurant or Snack Bar		
	Groceries		
	Marine Supplies - Hdwe.		
	Bait & Tackle		
	Ice		
	Fuel		
	New Engine & Boat Sales		
	Used Engine & Boat Sales		
	Boat Repairs		
	Engine Repairs		
	Lift (s)		
	Railway		
	Ramp		
	Winter Storage		
	Moorings		
	Slips		
	Transients		
<u>Darien</u>			
1. Norton Yacht Club			
2. Darien Boat Club			

TOWN	MARINA OR YACHT CLUB	FACILITIES		SUPPLIES		SERVICES	
		Transients					
		Slips					
		Moorings					
		Winter Storage					
		Ramp					
		Railway					
		Lift (s)					
		Engine Repairs					
		Boat Repairs					
		Used Engine & Boat Sales					
		New Engine & Boat Sales					
		Fuel					
		Ice					
		Bait & Tackle					
		Marine Supplies - Hdwe.					
		Groceries					
		Restaurant or Snack Bar					
		Dockside Telephone					
		Electricity					
		Water					
		Showers					
		Tide & Weather Infor.					
		24 Hour Security					
		Fire Protection					
		Refuse Disposal					
		Laundry					
		Swimming Pool or Beach					
		Pump Out Facility					
Deep River							
1. T.J. Johnson			19	8		*	*
2. Deep River Marina, Inc.			135	5		*	*

TOWN	FACILITIES	SUPPLIES	SERVICES
	Pump Out Facility		
	Swimming Pool or Beach	*	*
	Laundry		*
	Refuse Disposal		*
	Fire Protection		
	24 Hour Security		*
	Tide & Weather Infor.		*
	Showers		*
	Water		*
	Electricity		*
	Dockside Telephone		*
	Restaurant or Snack Bar		*
	Groceries		*
	Marine Supplies - Hdwe.		*
	Bait & Tackle		*
	Ice		*
	Fuel		*
	New Engine & Boat Sales		*
	Used Engine & Boat Sales		*
	Boat Repairs		*
	Engine Repairs		*
	Lift (s)		*
	Railway		*
	Ramp		*
	Winter Storage		*
	Moorings		*
	Slips		*
	Transients		*
<u>East Haven</u>	1. Lighthouse Marina	26	
	2. Haven East Marina	150	
	3. Talmadge Boat Yard	30	

TOWN	MARINA OR YACHT CLUB	FACILITIES										SUPPLIES					SERVICES												
		Transients	Slips	Moorings	Winter Storage	Ramp	Railway	Lift (s)	Engine Repairs	Boat Repairs	Used Engine & Boat Sales	New Engine & Boat Sales	Fuel	Ice	Bait & Tackle	Marine Supplies - Hdwe.	Groceries	Restaurant or Snack Bar	Dockside Telephone	Electricity	Water	Showers	Tide & Weather Infor.	24 Hour Security	Fire Protection	Refuse Disposal	Laundry	Swimming Pool or Beach	Pump Out Facility
East Lyme																													
1. Niantic Bay Yacht Club		Y	A						C	L	U	B												*	*	*	*	*	*
2. Niantic Beach Marina		10													*								*	*	*	*	*	*	*
3. Niantic River Marina Inc.		100						*		*			*		*								*	*	*	*	*	*	*
4. Boats, Inc.		120						*		*		*			*								*	*	*	*	*	*	*
5. Bayview Hotel and Marina		65													*								*	*	*	*	*	*	*
6. Darron's Marina, Inc		75	*					*		*		*			*							*	*	*	*	*	*	*	*
7. Niantic Boat Yard, Inc.		62	25					*		*		*			*							*	*	*	*	*	*	*	*
8. Bayreuther Boat Yard Inc.		85	15	*				*		*		*			*							*	*	*	*	*	*	*	*

TOWN	FACILITIES	SUPPLIES	SERVICES					
				Y	A	C	H	
FAIRFIELD MARINA OR YACHT CLUB	Transients							
	Slips							
	Moorings							
	Winter Storage							
	Ramp							
	Railway							
	Lift (s)							
	Engine Repairs							
	Boat Repairs							
	Used Engine & Boat Sales							
	New Engine & Boat Sales							
	Fuel							
	Ice							
	Bait & Tackle							
	Marine Supplies - Hdwe.							
	Groceries							
	Restaurant or Snack Bar							
	Dockside Telephone							
	Electricity							
	Water							
	Showers							
	Tide & Weather Infor.							
	24 Hour Security							
	Fire Protection							
	Refuse Disposal							
	Laundry							
	Swimming Pool or Beach							
	Pump Out Facility							
Fairfield								
1. Pequot Yacht Club ¹								
2. Southport Dock								
3. South Benson Small Boat Marina								
1. Also includes Pequot Junior Yacht Club								

TOWN	FACILITIES			SUPPLIES				SERVICES																			
	Slips	Moorings	Winter Storage	Ramp	Railway	Lift (s)	Engine Repairs	Boat Repairs	Used Engine & Boat Sales	New Engine & Boat Sales	Fuel	Ice	Bait & Tackle	Marine Supplies - Hdqrs.	Groceries	Restaurant or Snack Bar	Dockside Telephone	Electricity	Water	Showers	Tide & Weather Infor.	24 Hour Security	Fire Protection	Refuse Disposal	Laundry	Swimming Pool or Beach	Pump Out Facility
Greenwich																											
1. J. Catalano and Sons, Inc.	20					*			*			*		*		*						*					*
2. Byram Shore Boat Club	Y	A				C	H	T			L	U	B														
3. Byram Park Marina	400	67					*															*					*
4. Belle Haven Boat Club	Y	A				C	H	T			L	U	B									*					
5. Grass Island Municipal Boating Facility	327	750					*							*													
6. Greenwich Boat and Yacht Club	Y	A				C	H	T			L	U	B														
7. Indian Harbor Yacht Club	Y	A				C	H	T			L	U	B														
8. Strickland Road Municipal Facility	300	10																									
9. Palmer Point Marina	* 150					*			*		*					*		*		*		*		*	*	*	*
10. McMichael Yacht and Yard, Inc.	* 90	8				*			*		*		*			*		*		*		*		*	*	*	*

[illegible]

TOWN	FACILITIES					SUPPLIES					SERVICES																		
	Transients	Slips	Moorings	Winter Storage	Ramp	Railway	Lift (s)	Engine Repairs	Boat Repairs	Used Engine & Boat Sales	New Engine & Boat Sales	Fuel	Ice	Bait & Tackle	Marine Supplies - Hdwe.	Groceries	Restaurant or Snack Bar	Dockside Telephone	Electricity	Water	Showers	Tide & Weather Infor.	24 Hour Security	Fire Protection	Refuse Disposal	Laundry	Swimming Pool or Beach	Pump Out Facility	
Groton																													
1. Sub Base Marina ¹						P	R	I	V	A	T	E				*		*							*	*	*	*	*
2. Groton Oil Marina						12				*	*	*				*		*						*	*	*	*	*	*
3. Groton Marine Deck				*		27			*	*	*	*				*		*						*	*	*	*	*	*
4. On-The-Thames Motel/Boatel				*		16		*								*		*					*	*	*	*	*	*	*
5. Shennecosset1 Yacht Club					Y	A	C	H	T		C	L	U	B		*		*				*	*	*	*	*	*	*	*
6. Spicer's Marina				*	180	110	*		*	*	*	*	*	*	*	*		*			*	*	*	*	*	*	*	*	*
7. Elks Club Marina ²					P	R	I	C	V	A	T	E				*		*						*	*	*	*	*	*
8. Groton Long Point Yacht Club					Y	A	C	H	T		C	L	U	B		*		*						*	*	*	*	*	*
9. Palmer's Cove Marina, Inc.					100		*	*	*	*	*	*	*	*	*	*		*						*	*	*	*	*	*
10. Sound Marine					25 ³		*	*	*	*	*	*	*	*	*	*		*					*	*	*	*	*	*	*
11. Cousin's Boat Yard						50	*	*	*	*	*	*	*	*	*	*		*					*	*	*	*	*	*	*

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	FACILITIES			SUPPLIES			SERVICES																				
	Slips	Moorings	Winter Storage	Ramp	Railway	Lift (s)	Engine Repairs	Boat Repairs	Used Engine & Boat Sales	New Engine & Boat Sales	Fuel	Ice	Bait & Tackle	Marine Supplies - Hdwe.	Groceries	Restaurant or Snack Bar	Dockside Telephone	Electricity	Water	Showers	Tide & Weather Infor.	24 Hour Security	Fire Protection	Refuse Disposal	Laundry	Swimming Pool or Beach	Pump Out Facility
Guilford																											
Sachem Head Yacht Club	Y	A	C	*	*	*	*	C	L	U	B			*								*	*	*	*	*	*
Broude's Boat Yard, Inc.				*	24									*								*	*	*	*	*	*
Guilford Boat Yards, Inc.				*	5									*								*	*	*	*	*	*
Guilford Yacht Club	Y	A	C	*	*	*	*	C	L	U	B			*								*	*	*	*	*	*
Guilford Town Marina	170	12																			*	*	*	*	*	*	*

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TOWN	FACILITIES			SUPPLIES			SERVICES																				
	Slips	Moorings	Transients	Ramp	Railway	Lift (s)	Engine Repairs	Boat Repairs	Used Engine & Boat Sales	New Engine & Boat Sales	Fuel	Ice	Bait & Tackle	Marine Supplies - Hdwe.	Groceries	Restaurant or Snack Bar	Dockside Telephone	Electricity	Water	Showers	Tide & Weather Infor.	24 Hour Security	Fire Protection	Refuse Disposal	Laundry	Swimming Pool or Beach	Pump Out Facility
Norwalk (continued)																											
12. North West Marine, Inc.	75		*																						*		
13. Ischoda Yacht Club	Y	A	C	H	T								B	*		*								*			
14. Rex Marine Center, Inc.	75		*										*	*		*							*		*		
15. Vinco Marine, Inc.	98	14	*										*	*		*						*		*			
16. Viking Yacht Club	Y	A	C	H	T							U		*		*							*		*		
17. South Norwalk Boat Club	Y	A	C	H	T						U		B			*						*		*			
18. Anderson Boat Yard	30		*											*		*						*		*			
19. Neptune Marina	89		*										*	*		*					*		*	*			
20. Norwalk Municipal Marina	100																										
21. East Norwalk Boat-ing & Yacht Club	Y	A	C	H	T						U		B			*					*		*	*			
22. Overton's Outboard Service, Inc.		6												*		*					*		*	*			

TOWN	MARINA OR YACHT CLUB	Norwich	1. Rose City Yacht Club		
FACILITIES	Transients				
	Slips				
	Moorings				
	Winter Storage				
	Ramp		Y		
	Railway		A		
	Lift (s)		C		
	Engine Repairs		H		
	Boat Repairs		T		
	Used Engine & Boat Sales		C		
SUPPLIES	New Engine & Boat Sales		L		
	Fuel		U		
	Ice		B		
	Bait & Tackle				
	Marine Supplies - Hdqrs.				
SERVICES	Groceries				
	Restaurant or Snack Bar				
	Dockside Telephone				
	Electricity				
	Water				
	Showers				
	Tide & Weather Infor.				
	24 Hour Security				
	Fire Protection				
	Refuse Disposal				
	Laundry				
	Swimming Pool or Beach				
	Pump Out Facility				

SERVICES	Pump Out Facility		
	Swimming Pool or Beach	*	
	Laundry	*	
	Refuse Disposal		
	Fire Protection		
	24 Hour Security		
	Tide & Weather Infor.		
	Showers		
	Water	*	
	Electricity		
SUPPLIES	Dockside Telephone		
	Restaurant or Snack Bar	*	
	Groceries	*	
	Marine Supplies - Hdwe.	*	
	Bait & Tackle	*	
	Ice		
	Fuel		
	New Engine & Boat Sales		
	Used Engine & Boat Sales		
	Boat Repairs		
FACILITIES	Engine Repairs	*	
	Lift (s)	*	
	Railway	25	
	Ramp		
	Winter Storage		
	Moorings		
	Slips		
	Transients		
	TOWN		
	MARINA OR YACHT CLUB		
Rocky Hill			
1. Hales Landing			

TOWN

MARINA OR
YACHT CLUB

SERVICES

SUPPLIES

FACILITIES

Transients
 Slips
 Moorings
 Ramp
 Railway
 Lift (s)
 Engine Repairs
 Boat Repairs
 Used Engine & Boat Sales
 New Engine & Boat Sales
 Fuel
 Ice
 Bait & Tackle
 Marine Supplies - Hdwe.
 Groceries
 Restaurant or Snack Bar
 Dockside Telephone
 Electricity
 Water
 Showers
 Tide & Weather Infor.
 24 Hour Security
 Fire Protection
 Refuse Disposal
 Laundry
 Swimming Pool or Beach
 Pump Out Facility

Stamford

1. Southfield Park
Marina

70

2. Pat's Marina

65

3. Ponus Yacht Club

Y

4. Yacht Haven East
and West

800

5. Doane Harbor Marine

200

6. Schooner Cove, Inc.

115

7. Stamford Yacht
Club

Y

8. Muzzlo Bros. Yacht
and Yard, Inc.

37

9. Halloween Yacht
Club

Y

10. Stamford Municipal
Marina

230

11. Cove Island Marina

190

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TOWN	FACILITIES										SUPPLIES				SERVICES															
	Transients	Slips	Moorings	Winter Storage	Ramp	Railway	Lift (s)	Engine Repairs	Boat Repairs	Used Engine & Boat Sales	New Engine & Boat Sales	Fuel	Ice	Bait & Tackle	Marine Supplies - Hdwe.	Groceries	Restaurant or Snack Bar	Dockside Telephone	Electricity	Water	Showers	Tide & Weather Infor.	24 Hour Security	Fire Protection	Refuse Disposal	Laundry	Swimming Pool or Beach	Pump Out Facility		
Stratford																														
1. Housatonic Marina, Inc.	*	107						*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2. Don's Marine Service Inc.							*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
3. Housatonic Boat Club		Y	A	C	H	T																								
4. Stratford Town Dock and Launching Ramp		0			*																									
5. Brown's Boat Works, Inc.	*	34					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
6. Stratford Marina, Inc.	*	150	7		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
7. Pootatuck Yacht Club		Y	A	C	H	T																								

MARINA OR
YACHT CLUB

[illegible]

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APPENDIX F

STATE OWNED RECREATION OR PRESERVE PROPERTIES IN COASTAL TOWNS

STATE OWNED RECREATION OR PRESERVE PROPERTIES IN COASTAL TOWNS

	LOCATION
<hr/>	
<u>State Parks</u>	
Sherwood Island Beach State Park	Westport
Hammonasset Beach State Park	Madison
Sleeping Giant State Park	Hamden
Rocky Neck Beach State Park	East Lyme
Harkness Memorial State Park	Waterford
<hr/>	
<u>State Heritage Areas</u>	
("An area primarily managed to preserve and interpret unique and irreplaceable historical cultural, geologic or archeological features.")	
Barlett Arboretum	Stamford
Swamp Fight Monument	Fairfield
Fort Saybrook	Old Saybrook
Fort Griswold	Groton
John Mason Monument	Groton
Miantonomo Monument	Norwich
Pequot Burial Ground	Ledyard
Fort Shantok	Montville
<hr/>	
<u>State Reserves</u>	
("Lands and waters held in reserve that provide for future management options".)	
Miananus River State Reserve	Stamford
Silver Sands State Reserve	Milford
Quinnipiac River Conservation Reserve	Hamden
Thatchbed Island State Reserve	Essex
Selden Neck State Scenic Reserve	Lyme
Bluff Point State Coastal Reserve	Groton
Haley Farm State Reserve	Groton
Connecticut Arboretum State Reserve	Waterford
Stoddard Hill State Scenic Reserve	Ledyard
Minnie Island State Reserve	Montville
<hr/>	

LOCATION

State Fish and/or Wildlife Area

("An area of land or water having unique or outstanding wildlife qualities primarily managed for fish and/or wildlife based recreation".)

Farm River Marsh	East Haven
Branford River	Branford
Democrat Rock	Branford
East River	Guilford
Great Harbor	Guilford
C.E. Wheeler	Milford
Quinnipiac River	North Haven
Hammock River	Clinton
Lords Cove	Lyme
Nott Island	Lyme
Great Island	Old Lyme
Ferry Point	Old Saybrook
Plum Bank	Old Saybrook
Ragged Rock Creek	Old Saybrook
South Cove	Old Saybrook
Penny Island	Groton
Six Penny Island	Groton
Barn Island	Stonington
Rose Hill	Ledyard

Other

Farm Brook State Conservation Area	Hamden
Nehantic State Forest	East Lyme

Source: SCORP PRINTOUTS

UNDEVELOPED ISLANDS (con't)

Name	Location	Acreage	Ownership	Means Access
El Hammock	Norwalk	1.7	P	B
Wood	Norwalk	1.9	P	B
Temperance	Norwalk	.1	P	B
Sheffield	Norwalk	52.8	P	B
The Plains	Norwalk	21	City	B
Little Ram	Norwalk	3.0	P	B
Copps	Norwalk	7.9	P	B
Chimons	Norwalk	70.2	P	B
Betts	Norwalk	14.8	P	B
Grassy	Norwalk	13.4	City	B
Long Beach	Norwalk	.5	City	B
Peach	Norwalk	3.5	P	B
Calf Pasture	Norwalk	1.5	P	B
Sprite	Westport	7.2	P	B
Goose	Westport	3.4	Audubon	B
Cockenoe	Westport	37.6	Town	B
Islands of Sherwood Mill Pond	Westport	8	P	B
Menunketesuck	Westbrook	5.0	P	B
Salt	Westbrook	1.0	P	B
Mouse	Groton	.7	P	B
Ram	Stonington	24	P	B
Andrews	Stonington	30	P	B
Dodges	Stonington	18	P	B

Source: 1976 - CAM Contract Reports

APPENDIX G

ISLANDS

DEVELOPED ISLANDS

These islands generally receive some public services (water, phone, electricity or sanitary) and have some dwelling units on them.

Name	Location
Gardners	Greenwich
Pembrooke	Greenwich
Gamecock	Greenwich
Shell (Little Calf)	Greenwich
Round Island Peninsula	Greenwich
Grass	Greenwich
Horse	Greenwich
Saw	Greenwich
Greenway	Stamford
Brush Is. Peninsula	Darien
Nash	Darien
Pratt	Darien
Dorrance Property (peninsula)	Darien
Hay	Darien
Great Is. Peninsula	Darien
Delajuld Is. Peninsula	Darien
Fish Islands (4)	Darien
Butlers	Darien
Bell Is. Peninsula	Norwalk
Manresa	Norwalk
Canfield	Norwalk

<u>Name</u>	<u>Location</u>
Saugatuck Shores Peninsula	Westport
Owenoke Peninsula	Westport
Money (Thimble Island: see note)	Branford
Governor (Thimble Island: see note)	Branford
High (Thimble Island: see note)	Branford
Clam (Thimble Island: see note)	Branford
Essex Island Marina	Essex

Note: Most of the Thimble Islands have dwelling units on them (seasonal).

All the Thimble Islands receive some services during the summer, none are sewerred or have electricity service. Only those islands with more than two dwelling units are listed as developed.

Recreational Islands (Islands with recognized recreation use)

<u>Name</u>	<u>Location</u>
Calf Island	Greenwich
Great Captains Island	Greenwich
Ram Island (unofficial use)	Norwalk
Sherwood Island Peninsula, State Park	Westport
Kitts Island (Longshore Park)	Westport

UNDEVELOPED ISLANDS

Name	Location	Acreage	Ownership	Means Access
Shore Island	Greenwich	1.8	P	B
Bowens	Greenwich	3.4	P	B
Little Captain	Greenwich	3.0	Town	Ferry
Wee Captain	Greenwich	.7	Town	B
Is. of Greenwich Harbor	Greenwich	3.5	P	B
Grove	Greenwich	3.4	P	B
Finch	Greenwich	3.2	P	B
Goose	Greenwich	.6	P	B
Clump	Greenwich	1.5	P	Ferry
Rock	Greenwich	.6	P	B
Lot 16	Greenwich	1.0	P	B
Park	Greenwich	.3	P	B
Hannah Maria	Greenwich	.7	P	B
Indian Head Assoc.	Greenwich	.03	Assoc.	B
Pelican	Greenwich	.4	Town	B
Greenwich	Greenwich	.2	Town	B
Fayerweather	Bridgeport	14	Town	B
Charles	Milford	15	State	B and walk
Green	Branford	2	P	B
Sumac	Branford	2	P	B
Sedge	Branford	1	P	B
Umbrella	Branford	2	P	B

P denotes private ownership

B denotes private boat access

UNDEVELOPED ISLANDS (con't)

Name	Location	Acreage	Ownership	Means Access
Kelsey	Branford	43	P	B
Lover's	Branford	1	P	B
St. Helena	Branford	1	P	B
Thimble Islands				
Bear (Goat)	Branford	8	P	Ferry (seasonal)
Smith	Branford	3	P	Ferry (seasonal)
Beers	Branford	1	P	Ferry (seasonal)
Davis	Branford	4	P	Ferry (seasonal)
Wayland	Branford	3	P	Ferry (seasonal)
Hen	Branford	1	P	Ferry (seasonal)
Cut-in-Two	Branford	2	P	Ferry (seasonal)
Dogfish	Branford	1	P	Ferry (seasonal)
East Stopping	Branford	1	P	Ferry (seasonal)
Bush	Branford	1	P	Ferry (seasonal)
Prudden	Branford	1	P	Ferry (seasonal)
Pot	Branford	8	P	Ferry (seasonal)
West Crib	Branford	1	P	Ferry (seasonal)
East Crib	Branford	1	P	Ferry (seasonal)
Rogers	Branford	8	P	Ferry (seasonal)
Cedar	Branford	1	P	Ferry (seasonal)
Potato	Branford	2	P	Ferry (seasonal)
Horse	Branford	17	P	Ferry (seasonal)
Outer	Branford	6	P	Ferry (seasonal)
Wheeler	Branford	1	P	Ferry (seasonal)
Burr	Branford	1	P	Ferry (seasonal)

UNDEVELOPED ISLANDS (con't)

Name	Location	Acreage	Ownership	Means Access
Twins	Branford	2	P	Ferry (seasonal)
Frisbee	Branford	1	P	Ferry (seasonal)
Andrews	Branford	1	P	Ferry (seasonal)
Belden	Branford	1	P	Ferry (seasonal)
Horse	Guilford	2.5	P	B
Foskett	Guilford	3	P	B
Narrows	Guilford	6	P	B
Tuxis	Madison	3	Club	B
Cedar	Clinton	21	P	B
Thatchbed	Essex	20.4	Priv-Pub	B
Brockway	Essex	12.8	P	B
Nott	Lyme	82	Public	B
Eustacia	Lyme	30	P	B
Suden	Lyme	623	Public	B
Calves	Old Lyme	40.8	Priv-Pub	B
Goose	Old Lyme	76.0	P	B
Great	Old Lyme	353.6	Priv-Pub	B
Duck	Westbrook	3.0	Public	B
Canada Dry	Stamford	.2	P	B
Scofield	Stamford	2.0	P	B
Norwalk Island Group				
Hoyt	Norwalk	3.6	P	B
Cedar Hammock	Norwalk	3.6	P	B
Little Tavern	Norwalk	1.2	P	B
Tavern	Norwalk	5.9	P	B

APPENDIX H
COMPLEMENTARY LEGISLATION AND FUNDING

- Responsibilities of Federal Agencies
- State and Federal Agencies With Support Activities

2.3 Other Federal Responsibilities*

2.3A U.S. Department of the Interior

The Department of the Interior contains several agencies with major responsibilities for land and water resource management in the coastal zone, including the National Park Service, U.S. Fish and Wildlife Service, Bureau of Reclamation, and Bureau of Indian Affairs. In addition, the Bureau of Outdoor Recreation has a far-reaching role in coastal recreation, through its myriad of planning, coordination, and technical and financial assistance activities. The Department of the Interior possesses the greatest experience in recreational resource management of any Federal department.

1. Bureau of Outdoor Recreation

Under the Land and Water Conservation (LAWCON) Fund Act of 1965, (16 U.S.C. 460, 78 Stat. 897) the Bureau of Outdoor Recreation administers a program of financial assistance grants to states for facilitating outdoor recreation planning, acquisition and developmental activities. Under LAWCON each state must prepare a State Comprehensive Outdoor Recreation Plan (SCORP) to qualify for funding assistance. Each state has a LAWCON liaison officer to coordinate state/Federal relations.

The Bureau also prepares and maintains a continuous inventory of outdoor recreation needs and resources of the United States, maintains a system for classification of outdoor recreation resources, formulates and maintains a comprehensive nationwide outdoor recreation plan and provides technical assistance to states, political subdivisions and private interests. The Bureau provides technical and funding assistance, but has no resource management authority.

2. National Park Service

The National Park Service (NPS) represents a key land managing agency in the coastal zone. Nationwide, NPS administers a system of some 300 units, comprised

*Source: Coastal Recreation: A Handbook for Planners and Managers, U.S. Dept. of Commerce, NOAA, Office of Coastal Zone Management, January, 1976.

of national parks, monuments, historic sites, recreation areas, lakeshores, seashores, preserves, battlefields, and military parks.

The Park Service is charged with a dual, at times conflicting, mission of: (1) preserving the nation's natural, cultural and scenic wonders, while simultaneously (2) providing for public enjoyment derived through recreational use of these resources. NPS administered areas are generally established only where resources meet stringent requirements for uniqueness and national significance, and as a consequence, are seldom located where public needs are most intense. In addition, NPS policies de-emphasizing facility development in many types of park system units, and focusing greater attention upon preservation efforts have evolved in response to increasing use pressures and resultant resource degradation at heavily visited sites.

NPS has, however, undertaken projects in recent years that are distinctly oriented toward satisfying urban recreational needs. The Gateway and Golden Gate National Recreation Areas established in the New York and San Francisco metropolitan regions during 1972 represent the foremost examples of National Park service units established for urban recreational users in a coastal setting.

A 1935 National Park Service survey of undeveloped seashore areas recommended that 12 major sites, with a combined shoreline frontage of 439 miles, be preserved as national seashores. This investigation led to the creation of Cape Hatteras National Seashore in 1937. NPS conducted another survey in 1954 to determine the remaining opportunities to preserve outstanding stretches of the Atlantic and Gulf Coasts². Subsequently, nine national seashores and four national lakeshores distributed throughout the country's ocean and Great Lakes coastline have been established. These units have been complemented by the designation of several national parks, monuments, and other units with coastal frontages.

1 Clayne Jensen. Outdoor Recreation in America. Burgess Publishing Co. Minneapolis, Minn. 1973 (Second Edition).

2 National Park Service. A Report on the Seashore Recreation Area Survey of the Atlantic and Gulf Coasts. U.S. Dept. of the Interior. 1955.

The establishment of national parks, seashores, and lakeshores requires special legislation to provide for purchasing privately held lands. This requirement complicates planning for the creation of new areas due to the uncertainties inherent in dependence upon enabling legislation from the Congress.

In addition to its direct land managing responsibilities, NPS administers several specialized historic, archaeologic, and educational programs, and conducts research in managing natural areas, including coastal environments. The agency's National Historic Landmarks Program includes a survey of historic sites and buildings to identify those of national significance, evaluation of potential landmarks by the Advisory Board on National Parks, Historic Sites, Buildings and Monuments, and procedures for designating National Historic Landmarks.

All properties eligible for designation as national historic landmarks, as well as historical areas in the national park system, qualify automatically for inclusion in the National Register of Historic Places, a compilation of districts, sites, structures, and objects significant in American history, architecture, archaeology, and culture. The National Register, which is maintained by NPS, is published biennially, with pertinent information concerning each entry. Sites of state or local significance may be nominated by the respective states, and are placed on the National Register with NPS approval.

A State Liaison Officer appointed by the Governor supervises state historic programs. Historic properties are identified in a statewide survey, and reviewed by a professional committee. If the property in question meets Federally prescribed criteria, the committee may recommend it for nomination to the National Register. Additions to the National Register are printed monthly in the Federal Register, and an annual revision composed of monthly supplements may be obtained from the U.S. Government Printing Office.

The National Historic Preservation Act of 1966 (16 U.S.C. 470, 80 Stat. 915) authorizes Federal matching grants to the states, and to the National Trust for Historic Preservation. These grants may be used for statewide surveys, the preparation of statewide historic preservation plans, and the acquisition and restoration of individual projects. Individual preservation projects of other eligible public or private recipients may also be funded through the states if they meet the following requirements:

- the project's inclusion in the National Register;
- consistency with a statewide historic preservation plan approved by the Secretary of the Interior; and
- need for financial assistance; or
- ownership by the National Trust for Historic Preservation.

The State Liaison Officer directs the state's grant-in-aid program historical surveys, and preservation planning; this individual should be contacted for questions concerning a state's historic preservation program.

The National Historic Preservation Act of 1966 also created an Advisory Council on Historic Preservation, and authorized it to comment upon all undertakings, prior to their approval, licensed, assisted, or carried out by the Federal government that have an effect upon properties in the National Register. While this, in combination with applicable provisions in the National Environmental Policy Act (42 U.S.C. 4331) and resultant regulations, affords some measure of protection, important classes of projects with the potential to generate adverse effects are omitted in the application of these two laws.

The Natural Landmarks Program, also administered by NPS, was created to facilitate identification and registration of national landmarks, and to encourage the preservation of nationally significant properties, regardless of ownership. NPS has conducted an inventory of the country's natural areas in conjunction with this program. The system of natural landmarks is designed to illustrate the diversity of the nation's natural environment.

Following NPS evaluation, sites which appear to qualify for inclusion are submitted to the Advisory Board on National Parks, Historic Sites, Buildings and Monuments for its recommendations to the Secretary of the Interior concerning their eligibility for registration. In requesting registration, property owners agree to comply with basic management and protection practices prescribed by the program.

NPS also holds major Federal responsibilities for archaeological research and protection. The agency conducts a program of salvage archaeology where highway construction, dams, pipelines, and other Federal projects threaten antiquities. Although substantial archaeological fieldwork is conducted under the NPS' historic preservation programs, archaeological protection efforts are largely restricted to certain types of actions, and often do not apply to various projects which have a potential to adversely affect these resources.

3. U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service is charged with conserving and enhancing fish and wildlife populations, and particularly migratory birds, and threatened and endangered animal species. With responsibility for administering the National Wildlife Refuge System, the Fish and Wildlife Service represents another key Department of the Interior land and water resource managing agency. The refuge system, comprised of some 370 units covering 32 million acres, supports an estimated total of 20 million annual recreational visits.³ Public recreation is permitted in wildlife refuge areas as an appropriate incidental or secondary use, if the recreational activities pursued are consistent with the primary (fish and wildlife preservation) objectives for which each particular area was established (50 C.F.R. 108). Priority is afforded to recreational uses directly associated with wildlife and its habitat. These include sightseeing, nature observation and photography, interpretive centers and exhibits, fishing and boating, and other similar activities (50 C.F.R. 28). The Fish and Wildlife Service manages a national system of fish hatcheries.

³ U.S. Fish and Wildlife Service. "The National Wildlife Refuge System." U.S. Dept. of the Interior. 1975.

Fish and game management responsibilities are largely delegated to the states, and to assist them, the Fish and Wildlife Service administers Federal aid fish and wildlife restoration programs, as provided for in the Dingell-Johnson (16 U.S.C. 777) and Pittman-Robertson (16 U.S.C. 669) Acts, with grants awarded on a matching basis.

The National Wildlife Refuge System contains the largest Federal estuarine wetlands holdings. While recreational use of the National Wildlife Refuge System has steadily increased, the fact that this is only a secondary function limits the role of refuges in meeting recreational needs for two principal reasons: (1) incompatible and/or excessive recreational usage in some units has necessitated restrictions as a result of environmental degradation; and (2) fish and wildlife purposes claim first priority in allocating funds, thereby limiting the amount of monies available to provide recreational opportunities, and manage recreational use.

Conflicts arising from heavy recreational use of wildlife refuge areas received national attention in the recent Back Bay National Wildlife Refuge controversy near the Virginia-North Carolina coastal border. A group of Atlantic Ocean beachfront property owners brought suit attempting to overturn traffic restrictions which banned driving along most of the refuge's beach. The Fourth U.S. Circuit Court of Appeals upheld the Department of the Interior's right to enforce severe public access restrictions in attempting to prevent ecological damage, which in this instance, was rendered by dune buggies and four-wheel drive trucks driving along the shore. While the court decision applies only to Back Bay Wildlife Refuge, it reinforces use restrictions for preservation purposes throughout the national system.⁴

Growing costs associated with managing recreational activities in wildlife refuges may present a more pernicious, if less publicized, constraint on the use of these areas. The Migratory Bird Hunting Stamp Act (16 U.S.C. 718) provides revenues for purchasing refuge and waterfowl production areas, but not for their maintenance and operation. The support of recreational activities in the wildlife refuge system is contingent upon continued adequate levels of funding.

4 McAllister, William. "Access Ban at Wildlife Area Upheld." The Washington Post. July 10, 1975. p. A-1.

Another key Fish and Wildlife Service area of responsibility concerns the evaluation of fish and wildlife impacts associated with Federal projects, as mandated in the Fish and Wildlife Coordination Act of 1958 (16 U.S.C. 661). Federal agencies are required to consult with the Fish and Wildlife Service, and with its state counterpart to develop, modify or control, or to issue Federal licenses to any public or private agency to develop, modify, or control the waters of any stream or any other body of water for any purpose⁵.

This function has assumed growing significance with the growth in permit jurisdiction and changing environmental posture of the Corps of Engineers, and with the passage and implementation of the National Environmental Policy Act (42 U.S.C. 4331). These project review powers have allowed expanded protection of fish and wildlife habitat that is of direct or indirect significance to recreation.

4. Bureau of Land Management

As part of its responsibilities for managing some 450 million acres of Federal land reserve, the Department of the Interior's Bureau of Land Management (BLM) supports recreation that is compatible with the agency's land stewardship objectives. Recreational use of the vast public domain has increased substantially in recent years, as BLM has assumed a more active role in meeting outdoor recreational needs.

The direct significance of BLM's recreational activities in the coastal zone is limited, however, by the distribution of the agency's holdings. BLM lands are almost entirely in the western states, and a great preponderance of these lands are found at inland locations. Those BLM holdings that do lie within the coastal zone, nonetheless, often possess substantial potential for an expanded role in recreation. The King Range National Conservation Area, the first BLM unit of its kind, was authorized by the King Range Act (16 U.S.C. 460Y, 86 Stat. 1067). This 54,000 acre area, located along the northern California coast, has been divided into management zones, with recreation representing the paramount

5 Nathaniel Reed. "Living Marine Resource Conservation." The Coastal Imperative: Developing a National Perspective for Coastal Decision Making. National Ocean Policy Study. U.S. Senate Committee on Commerce. Sept. 1974.

use for much of the unit. BLM holdings are managed within an overall multiple objectives framework.

In addition to its responsibilities for land management, BLM is also concerned with identification and protection of undersea antiquities and cultural resources, as well as ecological resources, undertaken in conjunction with outer continental shelf oil and gas leasing. A provision of the Outer Continental Shelf Lands Act (43 U.S.C. 1331) allows withdrawal from disposition of unleased lands of the Outer Continental Shelf. Areas already withdrawn under this provision include the Key Largo Coral Reef Preserve, off the coast of Florida, and the Santa Barbara Ecological Preserve and Buffer Zone off the California shore⁶. The Key Largo site has been proposed as a marine sanctuary, under Title III of the Marine Protection, Research and Sanctuaries Act of 1972 (16 U.S.C. 1434, 86 Stat. 1061).

BLM maintains an inventory system that provides statistics on the use of public lands for recreation and wildlife purposes, including data on visitor use of established and potential recreation sites, as well as lands or sites leased to non-Federal interests for recreation purposes⁷.

2.3B U. S. Department of Defense

The U.S. Army Corps of Engineers' broad responsibilities in the coastal zone substantially influence recreational activities there. Other Defense agencies hold significant coastal acreages, but public access for recreational use is often restricted. Defense lands and waters in many locations comprise, however, a potential reserve for future recreational use since military requirements and priorities change over time.

1. U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers possesses a diverse and expanding array of responsibilities which relate to coastal recreation in both a direct and indirect fashion. As the interpretation of Federal navigation interests has grown, the scope of the Corps' recreational involvement has broadened as well.

6 Maurice P. Lynch, Martha A. Patton, & Theodore F. Smolen. "A Policy Study of Marine & Estuarine Sanctuaries: Background Information." Marine & Estuarine Sanctuaries: Proceedings of the National Workshop on Sanctuaries. Scientific Report No. 70. Virginia Institute of Marine Science. pp. 3-56 Feb., 1974

7 Bureau of Land Management. Public Land Statistics - 1973. U.S. Dept. of Interior. U.S. Govt. Printing Office. 1974.

The Corps is vested with continuing authority to plan and construct certain flood control, navigation and beach erosion and shore protection projects; undertake water supply projects; prepare flood plain information studies; engage in emergency flood control and flood damage rehabilitation work; and holds permit review authority for a wide range of activities in navigable waters and wetlands.

Recreation generally represents only a single component of multi-objective projects, but benefits derived from recreation have played an increasing role in the justification of Corps programs. Federal participation in beach and shore stabilization projects, for instance, is often justified principally by public recreational use⁸.

Recreational use of Corps facilities has shown a dramatic increase since World War II, with annual visitation now exceeding 300 million recreation days⁹. More recreationists now visit Corps outdoor recreation facilities than those of any other Federal agency, and the rate of increase during the past two decades has exceeded that of any other Federal agency.

While a majority of these visits are recorded at inland reservoir project sites, the Corps plays a major role in supporting coastal recreational activities. This role ranges from small boat harbor projects and beach restoration measures, which facilitate recreational activities directly, to broad research and permitting authorities, which may preserve or enhance recreational resources and pursuits in an indirect fashion. Corps programs are carried out through nine coastal and Great Lakes division offices, 20 operating offices, and five major research facilities, including the Coastal Engineering Research Center (CERC).

8 Office of Science and Technology. The Federal Ocean Program. The Annual Report of the President to the Congress on the Nation's Efforts to Comprehend, Conserve, & Use the Sea. April, 1973.

9 U.S. Army Corps of Engineers. Recreation Statistics. 1973.

The River and Harbor Act of 1968 (33 U.S.C. 426) gave the Corps responsibilities for appraising, investigating and studying the condition of the nation's shorelines, and for developing suitable means for protecting, restoring and managing them so as to minimize erosion induced damages. This legislative charge resulted in a National Shoreline Study, completed in 1971, which inventoried and evaluated 84,000 miles of U.S. ocean and Great Lakes shoreline. While this study probably represents the most comprehensive analysis of shoreline conditions in the U.S. produced to date, a report by the Comptroller General of the U.S.¹⁰ claims that the Corps' investigation contained inaccuracies in the assessment of shoreline erosion in the nation. The Comptroller General's report identifies limited and inadequately defined criteria for classifying erosion conditions, and a lack of uniform methodology among Corps district offices investigated as the study's underlying problems. Among the difficulties encountered in attempting to carry out the Corps' erosion control program revealed by the Comptroller General's report was the requirement that public access be provided to beaches developed or improved with Federal funds; private property owners along the shoreline within project areas were found to be reluctant to allow public access to beaches.

Not only are Corps-maintained coastal waterways, jetties and related navigation improvements extensive, but the agency has significant additional holdings under its jurisdiction with potentials for expanded recreational use. A reconnaissance level survey was recently conducted for the Portland District, U.S. Army Corps of Engineers to determine the potential for public recreation and conservation use at 11 Oregon and Washington coastal project sites. These sites consisted primarily of jetties and accreted land at the mouths of coastal rivers, and several were identified as already managed for recreational purposes.

¹⁰ Comptroller General of the U.S. National Efforts to Preserve the Nation's Beaches and Shorelines - A Continuing Problem. Report to Congress. U. S. General Accounting Office. June 11, 1975.

While possible conflicts with navigation were encountered, as were safety hazards associated with public use, the report indicated that in most instances, these constraints could be overcome. The study developed a general planning framework for each site to serve as a basis for detailed master planning (where required) in cooperation with the Oregon and Washington state park and recreation officials. Similar potentials for coordination exist along much of the nation's coastline.

Corps permitting authorities cover construction of structures extending beyond the mean high water mark, including piers and bulkheads and a variety of dredge, fill, disposal and related activities. Corps review authority may apply directly to construction and maintenance of public and private recreational facilities. This regulatory authority, coupled with National Environmental Policy Act review responsibilities, also assists in ensuring that development and related activities are planned and carried out in a fashion that provides adequate protection of areas with recreational values that could be adversely affected.

Interim regulations promulgated pursuant to section 404 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251) extend Corps permit jurisdiction beyond traditional navigable water boundaries. A phased program for implementation has been proposed, with contiguous coastal wetlands the initial area subject to the revised jurisdiction. Full implementation of section 404 will further refine Corps permit jurisdiction, and will exert a far-reaching influence on development and maintenance activities in wetland and coastal areas.

2.3C U.S. Department of Commerce

Department of Commerce involvement in the recreational field reflects the diverse nature of its component agencies. In addition to the responsibilities of the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, the Department's Bureau of the Census provides recreation statistics and the Economic Development Administration may provide financial assistance for capital projects. Further, additional major components of the National Oceanic and Atmospheric Administration are involved: the National Weather Service and National Ocean Survey provide climatic and nautical information that is invaluable to all boaters.

and fishermen; the National Sea Grant and Marine Advisory Service Programs provide research and technical assistance for marine recreation; and the National Marine Fisheries Service holds responsibility for managing living marine resources.

1. National Marine Fisheries Service

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) is charged with the management of living marine resources, including conservation, development and enhancement of anadromous fisheries. NMFS holds responsibility for dealing with both the commercial and recreational aspects of these marine resources. The agency generally does not provide directly for recreational activities, but rather complements recreational pursuits through its resource management functions.

NMFS provides financial assistance to the states for development, implementation, administration, monitoring and evaluation of fisheries management plans. The agency also establishes national guidelines for managing fisheries.

NMFS sponsors extensive saltwater recreational fishing surveys to more accurately assess numbers of fishermen, the amount of time they spend fishing, their catch, and their expenditures. A survey of 13 Northeastern states and the District of Columbia was completed in April, 1975, and a companion investigation with a spring, 1976 target date for completion has been initiated for eight Southeastern and Gulf states.

Proposals before Congress to extend U.S. fisheries jurisdiction to 200 miles would substantially expand NMFS' responsibilities, though functions related to commercial fisheries would be most significantly affected.

2. Office of Sea Grant/Marine Advisory Service

The National Sea Grant Program, now part of the National Oceanic and Atmospheric Administration (NOAA), carries out cooperative programs in the coastal zone

with state and local governments, academic institutions, and industry for the purpose of fostering marine resource development, technology, environmental research, education and training, and advisory services¹¹.

The Marine Advisory Service Program, which is designed to facilitate the transfer of information between researchers and users, coordinates the diverse advisory responsibilities of Sea Grant institutions. While the scope and orientation of Sea Grant sponsored research varies substantially, an expanding array of projects are concerned with some aspect of recreation. In addition, a growing cadre of marine recreation specialists has become affiliated with the Marine Advisory Service.

The collective expertise of Sea Grant/Marine Advisory Service affiliates often makes them a valuable resource for research, information and guidance concerning diverse aspects of recreation in the coastal environment.

2.3D U.S. Department of Agriculture

Recreation has assumed a role of expanding significance in the U.S. Department of Agriculture's overall operations, particularly in the National Forest System. In addition to the vast recreational opportunities afforded by national forest lands and waters, other agencies such as the Soil Conservation Service, Agricultural Stabilization and Conservation Service, and Extension Service provide technical or financial assistance for recreational purposes.

1. U.S. Forest Service

The U.S. Forest Service (USFS) administers the National Forest System, which encompasses over 180 million acres of public land. The extent of this Department of Agriculture component's holdings make it second only to the Bureau of Land Management's. Like BLM, the Forest Service's properties are heavily concentrated in western states and inland areas.

¹¹ Office of Science and Technology. The Federal Ocean Program. Annual Report of the President to Congress on the Nation's Effort to Comprehend, Conserve, and Use the Sea. April, 1973.

National forests are managed within a sustained yield, multiple objective framework for outdoor recreation, timber and range production, watershed protection, and fish and wildlife purposes. The national forests support a variety of recreational activities in diverse settings, and receive among the greatest visitation of any Federal areas. Despite this extensive recreational use, a substantial proportion of national forest lands are located in primitive and wilderness settings. Most of the acreage in the National Wilderness Preservation System is located in national forests. USFS, along with the National Park Service, administers National Recreation Areas. A substantial majority of national forest coastal frontage is found in Alaska, though significant shoreline holdings are also located in other West Coast, Great Lakes, and to a lesser extent, Southeastern states.

USFS conducts extensive recreational research, primarily through its forest and range experiment stations, although investigations are rarely undertaken in coastal settings.

While recreation represents a fundamental and expanding use of national forests, it still comprises only one of many which must be accommodated. As a consequence, much of the National Forest System remains unavailable for recreational activities.

2. Soil Conservation Service

Several Soil Conservation Service (SCS) programs provide assistance for outdoor recreation, including its District Assistance, Watershed Protection and Flood Prevention, Cropland Conversion, and Technical Assistance Programs¹². SCS often works directly with individual or groups of property owners, and with local governments. Its programs are predominantly of a rural nature, but have been extended to an increasing number of urban areas. SCS' primary contribution to recreation consists of technical and financial assistance in planning and constructing recreational facilities of a relatively small scale.

¹² Clayne, Jensen. Outdoor Recreation in America. Burgess Publishing Co. Minneapolis, Minn. 1973 (Second Edition).

2.3E U.S. Department of Transportation

While not a land and water resource managing agency, nor one with substantial direct responsibilities for recreation, the U.S. Department of Transportation nevertheless administers several programs with significant ramifications for recreationists. These include Coast Guard programs, especially those for boating safety; the massive Federal aid highway programs administered by the Federal Highway Administration; and public transit assistance programs of the Urban Mass Transportation Administration.

1. U.S. Coast Guard

The Coast Guard (USCG) is charged with maintaining the safety of life and property at sea, and with the enforcement of maritime laws and treaties, particularly as they relate to pollution prevention and fisheries conservation¹³. The Coast Guard's primary role with respect to recreation revolves around its public safety mission, which includes search and rescue, aids to navigation, and small boat safety. USCG and its volunteer arm, the Coast Guard Auxiliary, conduct boating safety education and enforcement programs to train private owners in the safe handling of their boats.

Like the Corps of Engineers and other Department of Defense agencies, the Coast Guard has jurisdiction over coastal landholdings that are incidental to primary agency responsibilities. Certain of these areas present potentials for introducing, expanding, or better managing recreational activities.

2. Federal Highway Administration

The Federal Highway Administration (FHWA) administers Federal aid highway programs, encompassing a network which includes roughly one-fourth of the nation's road mileage, and carries over two-thirds of all its traffic¹⁴.

¹³ Office of Science & Technology. The Federal Ocean Program. The Annual Report of the President to the Congress on the Nation's Efforts to Comprehend, Conserve, and Use the Sea. April, 1973.

¹⁴ U.S. Dept. of Transportation. U.S. Dept. of Transportation - Facts & Figures. January, 1973.

A series of policy and procedure memoranda, along with legislative enactments, such as the National Environmental Policy Act, have promoted increased concern for ecological and socioeconomic considerations in transportation planning. This has led to expanded efforts to minimize adverse environmental effects associated with highway projects, including protection of parklands, recreational areas, wildlife and waterfowl refuges, properties of historic and cultural significance, and wetlands and coastal areas.

In addition to changing emphasis in highway planning, and increased attention to the impacts of implementing transportation facility plans, FHWA may, under certain circumstances, provide direct financial assistance for projects, such as bikeways and pedestrian facilities as part of a Federal aid highway project, wherever conditions are favorable and a public need is served. Provisions in the Federal Aid Highway Act of 1973 (23 U.S.C. 217) allow the use of these funds to construct bicycle and pedestrian facilities independent of regular highway projects. The various states are responsible for the administration of funds apportioned each year by FHWA¹⁵.

2.3F Other Federal Agencies

In addition to those agencies already identified, others described in this concluding section are vested responsibilities of import to coastal recreation.

1. General Services Administration

The General Services Administration (GSA) develops policies for the maximum utilization of Federally owned excess real and personal property; and directs and coordinates its disposal by sale or conveyance for public purposes, including park and recreational use¹⁶.

¹⁵ Federal Highway Administration. "Bicycles & Pedistrian Facilities in the Federal Aid Highway Program." U.S. Dept. of Transportation, 1974.

¹⁶ John K. Gamman, Shavaun Towers, & Jens Sorenson. Federal Involvement in the California Coastal Zone: A topical Index to Agency Responsibility. Institute of Marine Resources, University of California. Sea Grant Publication No. 29. November, 1974.

The Bureau of Outdoor Recreation provides technical assistance to state and local governments relating to applications for Federal surplus property for public park and recreational purposes. GSA's Disposal of Federal Surplus Real Property Program has allowed conversion of areas formerly devoted solely to military uses to outstanding coastal recreation sites, often accessible to substantial urban populations. Continuing operation of this program represents a promising avenue for expanding public access to potential shoreline recreation areas.

2. Water Resources Council

The Water Resources Council (WRC), an independent agency, has broad responsibilities for coordinating water resources planning. WRC recommends the establishment of Federal-state river basin commissions to the President, and reviews plans prepared by these commissions. The Council administers financial aid programs for comprehensive river basin planning, which is coordinated between water and related land resources planning, and statewide recreation planning.

Each river basin commission serves as the principal agency for the coordination of water resources planning in its designated area. The commissions prepare and maintain comprehensive river basin plans, which include recreation, and fish and wildlife resources. Two recent efforts which focus upon coastal areas include the Great Lakes Basin Framework Study conducted by the Great Lakes Basin Commission, and People and the Sound: A Plan for Long Island Sound developed by the New England River Basins Commission. Both of these plans reflect high recreation and open space priorities.

3. U.S. Department of Housing and Urban Development

The Department of Housing and Urban Development (HUD) has traditionally been a key agency in the provision of assistance for open space planning and land acquisition. This agency's impact has been especially pronounced in urbanized areas. HUD's categorical grant programs, such as open space and urban beautification have recently been replaced by community development block grants, however. As a result, localities now have greater discretion over how grant funds are to be spent. While financial aid administered by HUD is no longer earmarked for open space, it remains a valid purpose for expending community development funds.

FEDERAL AGENCIES WITH RECREATIONAL SUPPORT ACTIVITIES *

	FIN ASST.	TECH ASST.	REG.	PLNG RES., COORD
DEPARTMENT OF AGRICULTURE				
AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE				
Rural Environmental Assistance	x			
COOPERATIVE STATE RESEARCH SERVICE				
Cooperative Forestry Research	x	x		
FARMERS HOME ADMINISTRATION				
Farm Ownership Loans	x			
Irrigation, Drainage, and other Soil and Water Conservation Loans	x			
Recreation Facility Loans	x			
Resource Conservation and Development Loans	x			
Watershed Protection and Flood Prevention Loans	x			
EXTENSION SERVICE				
Extension Programs for Recreation, Wildlife and Natural Beauty	x	x		
Extension Programs for Soil and Water Conservation	x	x		
FOREST SERVICE				
State and Private Forestry Cooperation	x	x		
Forestry Cooperative Research	x	x		
Forestry Research	x	x		
SOIL CONSERVATION SERVICE				
Resource Conservation and Development	x	x		x
Soil and Water Conservation		x		x
Soil Survey		x		x
Watershed Protection and Flood Prevention	x	x		x
River Basin Surveys and Investigations		x		x
DEPARTMENT OF COMMERCE				
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				
Nautical Charts and Related Data		x		
River and Flood Forecasts and Warnings		x		
Weather Forecasts and Warnings		x		
Anadromous and Great Lakes Fisheries Conservation	x			

* Source: Comprehensive Outdoor Recreation Plan, State of Connecticut,
Department of Environmental Protection, December, 1974.

	FIN ASST.	TECH. ASST.	REG.	PLNNG., RES., COORD.
DEPARTMENT OF DEFENSE				
DEPARTMENT OF THE ARMY, OFFICE OF THE CHIEF OF ENGINEERS (ARMY CORPS OF ENGINEERS)				
Aquatic Plant Control		x		x
Beach Erosion Control Projects		x		x
Flood Control Projects		x		x
Navigation Projects		x		x
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT				
COMMUNITY PLANNING AND MANAGEMENT				
Comprehensive Planning Assistance	x			
New Communities Supplementary Grants for Public Facilities	x			
COMMUNITY DEVELOPMENT				
Neighborhood Facilities Grants	x			
Open Space Land Programs	x			
Public Facility Loans	x			
Neighborhood Development	x			
Urban Renewal Projects	x			
DEPARTMENT OF THE INTERIOR				
BUREAU OF LAND MANAGEMENT				
Public Land for Recreation, Public Purposes and Historic Monuments	x			
BUREAU OF OUTDOOR RECREATION				
Outdoor Recreation-Acquisition and Development Grants	x			
Outdoor Recreation State Planning- Financial Assistance	x			
Outdoor Recreation Technical Assistance		x		
Outdoor Recreation Research and Education				x
Outdoor Recreation Water Resources Planning		x		x
Outdoor Recreation Coordination				x
Outdoor Recreation Resource Area Studies		x		x
Outdoor Recreation "Donations"				
BUREAU OF RECLAMATION				
Small Reclamation Projects	x			
BUREAU OF SPORT FISHERIES AND WILDLIFE				
Anadromous Fish Conservation	x			

	FIN ASST.	TECH. ASST.	REG.	PLNNG., RES., COORD.
BUREAU OF SPORT FISHERIES AND WILDLIFE (CONT'D)				
Conservation Law Enforcement Training Assistance		x		
Farm Fish Pond Management	x			
Sport Fish Management		x		
Fish Restoration (Dingell/Johnson Act)	x			
Wildlife Enhancement		x		
Wildlife Research Information		x		
Wildlife Restoration (Pittman/Robertson Act)				
Fishery Research and Information		x		
GEOLOGICAL SURVEY				
Geologic and Mineral Resource Surveys and Mapping		x		
Map Information		x		
Topographic Surveys and Mapping		x		
Water Resources Investigations		x		
NATIONAL PARK SERVICE				
Disposal of Surplus Wildlife	x			
Historic American Buildings Survey	x	x		
Historic Preservation	x			
Park and Recreation Technical Assistance		x		
Park Practice Program		x		
National Registry of Natural Landmarks		x		
DEPARTMENT OF TRANSPORTATION				
U. S. COAST GUARD				
Boating Safety		x		
FEDERAL HIGHWAY ADMINISTRATION				
Highway Beautification - Landscaping and Scenic Enhancement	x			
Highway Planning and Construction	x			
FEDERAL POWER COMMISSION				
Water Resources Development		x		
GENERAL SERVICES ADMINISTRATION				
Disposal of Federal Surplus Real Property	x			
NATIONAL SCIENCE FOUNDATION				
Interdisciplinary Research Relevant to Problems of Our Society	x			x
NEW ENGLAND REGIONAL COMMISSION				
New England Regional Economic Development	x			

<u>FIN</u> <u>ASST.</u>	<u>TECH.</u> <u>ASST.</u>	<u>REG.</u>	<u>PLNNG.,</u> <u>RES.,</u> <u>COORD.</u>
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SMALL BUSINESS ADMINISTRATION

Management Assistance to Small Business
 Management and Technical Assistance for
 Disadvantaged Businessmen-Research
 and Demonstration Grants
 Small Business Loans

	x		
x	x		
x			

ENVIRONMENTAL PROTECTION AGENCY
 WATER QUALITY OFFICE

AIR POLLUTION CONTROL

	x	x
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OFFICE OF NOISE ABATEMENT AND CONTROL

	x	x
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STATE AGENCIES WITH RECREATIONAL SUPPORT ACTIVITIES

	FIN ASST.	TECH ASST.	REG.	PLNNG RES., COORD.,
DEPARTMENT OF ENVIRONMENTAL PROTECTION				
DIVISION OF PRESERVATION AND CONSERVATION				
WATER AND RELATED RESOURCES				
Maintenance of Flood Retarding Structures			x	
Small Watershed Prevention Assistance to Towns	x	x		x
Flood Control Studies and Inter-Govern- mental Flood Control Studies and Surveys			x	x
Participation in Long Range Water Resources Planning				x
Shore Erosion Control		x		x
PARKS AND RECREATION				
Development and Operation of Historic Parks and monuments			x	
Development and Operation of Swimming and Picnic Facilities		x	x	x
Supervision and Promotion of Boating			x	x
Development and Operation of Camping Facilities			x	x
Development and Maintenance of Trails			x	x
Development and Operation of Winter Sports Facilities			x	x
LAND ACQUISITION				
Assistance to Towns for Open Space Acquisition	x	x		
Coordination and Purchase of State Open Space Land	x	x		
Selection and Operation of Natural Area Preserves				x
Assistance to Potential Donors of Land and Water		x		
FISH AND WATER LIFE				
Management of Inland and Marine Fish		x	x	
WILDLIFE				
Management of Wildlife		x	x	
LAW ENFORCEMENT				
Conservation Law Enforcement		x	x	

	FIN ASST.	TECH ASST.	REG.	PLNNG RES., COORD.
OFFICE OF THE COMMISSIONER				
POLICY PLANNING AND RESEARCH				
Provision of a Comprehensive Plan for Recreation				x
DIVISION OF ENVIRONMENTAL QUALITY				
WATER QUALITY				
Establishing and Enforcing Water Pollution Standards		x	x	x
AIR QUALITY				
Enforcement and Control of Air Quality		x	x	x
CONNECTICUT HISTORICAL COMMISSION				
Preservation and Development of Historical Sites	x	x		
Research to Discover Historically Significant Sites				x
CONNECTICUT DEVELOPMENT COMMISSION				
Development of a Year-Round Tourist Industry		x		x
Small Business Loans	x	x		
CONNECTICUT AGRICULTURAL EXPERIEMENT STATION				
Research on Natural Resources, Forestry and Landscape				x
DEPARTMENT OF HEALTH				
OFFICE OF PUBLIC HEALTH				
Regulation of Recreation Facilities				
Sanitation Inspection		x	x	x
DEPARTMENT OF TRANSPORTATION				
Maintenance of Highway Facilities			x	x
Highway Beautification			x	x
FINANCE AND CONTROL				
OFFICE OF STATE PLANNING				
Coordination of Inter-Agency Water Resources Planning Board				x
Preparation of State Plans		x		

REGIONAL AND LOCAL AGENCIES WITH
RECREATION SUPPORT ACTIVITIES

	<u>FIN</u> <u>ASST.</u>	<u>TECH</u> <u>ASST.</u>	<u>REG.</u>	<u>PLNNG</u> <u>RES.,</u> <u>COORD.,</u>
REGIONAL PLANNING AGENCIES		x		x
SOIL AND WATER CONSERVATION DISTRICTS		x		x
RESOURCE CONSERVATION AND DEVELOPMENT PROJECTS		x		x
CONSERVATION COMMISSIONS		x	x	x
PLANNING AND ZONING COMMISSIONS		x	x	x
RECREATION COMMISSIONS		x		x

